

# Memo

**To:** Docketing Division  
**From:** Thomas Persinger, Rail Specialist, Rail Division  
**Cc:** PUCO Legal Department  
**Date:** 6/15/2022

**Re:** PUCO Case No. 22-0595-RR-FED In the Matter of a Request for the Upgrade of the Active Warning Devices at the Norfolk Southern Railway Crossing, Hines Hill Road, DOT#503-034K, Summit County, Ohio.

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On March 21st, 2022, the Ohio Rail Development Commission (ORDC) authorized funding for Norfolk Southern Railway to install lights and gates at Hines Hill Road, DOT#503-034K, in Summit County, Ohio. The crossing was surveyed, on August 17th, 2021, and found to warrant the upgrades. 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 in the amount of \$38,825.00 have been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in six 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:**

Norfolk Southern Railway Company  
Kurt Young  
Public Projects Engineer  
650 West Peachtree Street NW  
BOX 41  
Atlanta, GA 30308

Norfolk Southern Railway Company  
Cayela Wimberly  
Director Grade Crossing Safety  
650 West Peachtree Street NW  
BOX 41  
Atlanta, GA 30308

Eastman & Smith LTD.  
Casey Talbott  
Attorney for Norfolk Southern  
One SeaGate 24<sup>th</sup> Floor  
P.O. Box 10032  
Toledo, OH 43699-0032

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

City of Hudson  
Thomas Sheridan  
Interim City Manager  
1140 Terex Road  
Hudson, OH 44236

First Energy-Ohio Edison

**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 *JT*  
**SUBJECT:** Summit County, Hines Hill Rd, Norfolk Southern Railway  
DOT#503-034K, PID#116116  
**DATE:** May 24, 2022

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The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on August 17, 2021. The Diagnostic Team recommended that Norfolk Southern provide an interconnection with a normally closed “dry contact” for the city of Hudson to access. 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 six months. This construction 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.

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  
Plan & Estimate  
Letter Agreement  
PE Authorization

c: Jill Henry, PUCO  
Heather Hamilton, ORDC



## Rail Development Commission

Mike DeWine, Governor  
Jon Husted, Lt. Governor

Scott Corbitt, Chair

May 24, 2022

Mr. Kurt Young  
Public Projects Engineer  
1200 Peach Street NE, Box 123  
Atlanta, Ga. 30309

RE: Warning Device Interconnect  
Summit County, Hines Hill Rd, DOT#503-034K  
PID#116116, RR Ref #10.2159

Dear Mr. Young:

The plan and estimate dated May 23, 2022, for the referenced project has been reviewed and is acceptable. Norfolk Southern (NS) may proceed with the construction of the proposed interconnect cable with the City of Hudson 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 from ORDC is limited to \$38,825.00. Additional costs must be approved in writing by the Ohio Rail Development Commission (ORDC) prior to being incurred. Emergency verbal authorizations by ORDC may be permitted and will be confirmed by ORDC in writing within ten (10) business days of the verbal approval.

This authorization is contingent upon NS accepting the following instructions:

1. NS'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](mailto:james.tucker@dot.ohio.gov) and to the Public Utilities Commission of Ohio at [jill.henry@puco.ohio.gov](mailto:jill.henry@puco.ohio.gov). NS'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. NS 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 NS.
3. NS's project foremen will notify James Tucker at 614-398-6897 (telephone) or [james.tucker@dot.ohio.gov](mailto:james.tucker@dot.ohio.gov) (email) of any changes in the scope of work, cost overruns, material

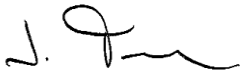


changes, etc. which are not included in the approved plan and estimate and secure approval of same before the work is performed.

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. NS shall send copies of each partial bill to [ORDC.Invoice@dot.ohio.gov](mailto:ORDC.Invoice@dot.ohio.gov). Please find the enclosed ODOT Purchase Order to reference when billing.
6. NS 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)

## CONTENTS

1

111213

DESIGN: 03-24-22  
PROGRESS RAIL  
CHECK: 05-23-22  
JMW

**C&S CAD**

	1	
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1	11-30-98
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NEW PLAN DRAWN ACCOUNT CAB  
SIGNAL ADDED.

WO/AFE NO: 99-8091  
IN SERVICE: 07-15-01  
PER: J.J. BENTZ

JJB	SWS
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2	11-01-00
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PLAN REVISED ACCOUNT JOINTS  
RELOCATED 1000' EAST.

FILE: R-0921

WO/AFE NO: 99-8091  
IN SERVICE: 07-15-01

PER: J.J. BENTZ

JJB	SWS
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3	7-30-01
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PLAN REVISED ACCOUNT CSC  
FILTERS UPGRADED TO REDUCE  
NOISE - NBS UNITS ALSO CHNGD

FILE: R-0921

WO/AFE NO: 99-8091  
IN SERVICE:

PER:

4	05-23-22	MEM	PRS	JMW
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PLAN REVISED ACCOUNT OF  
HINES HILL RD.  
SIMULTANEOUS PREEMPTION

PROJECT: #10.2159  
IN SERVICE: XX-XX-XX  
PER: XXX

XXX	XXX
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AAR/DOT #503034K



DEARBORN DIVISION

HIGHLAND SPRINGS, OHIO  
HINES HILL ROAD/REP 99.7

PHILADELPHIA, PA

APPROVED: *C. J. Maffari*, PE CAD  
CHIEF ENGINEER - C&S

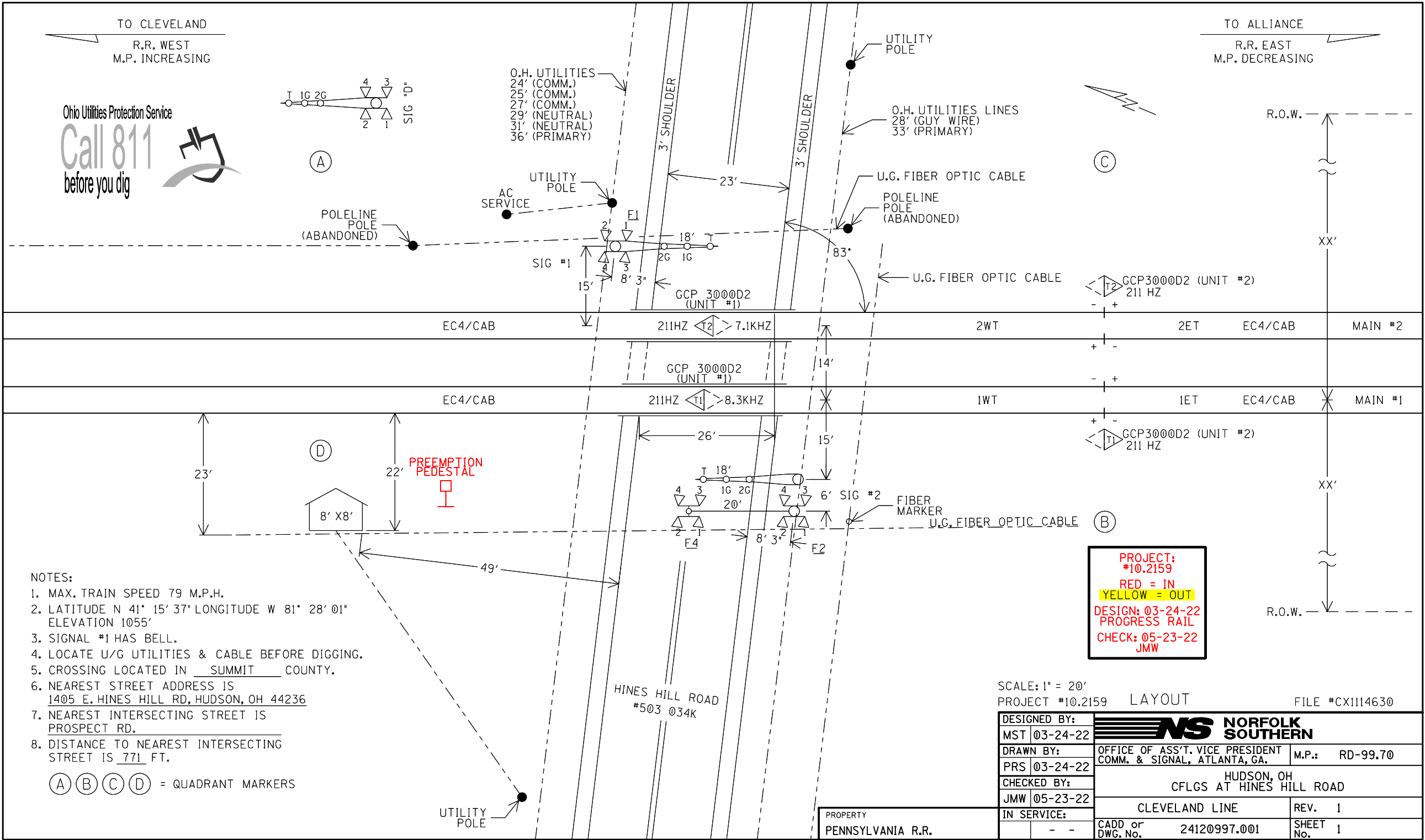
ISSUE DATE: NOVEMBER 30, 1998

2412-0991

SWS	REV. 4	05-23-22	SHEET NX1 1
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3 7-30-01

SHEET NX1



Ohio Utilities Protection Service  
**Call 811**  
before you dig

- NOTES:
- 1. MAX. TRAIN SPEED 79 M.P.H.
  - 2. LATITUDE N 41° 15' 37" LONGITUDE W 81° 28' 01" ELEVATION 1055'
  - 3. SIGNAL #1 HAS BELL.
  - 4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
  - 5. CROSSING LOCATED IN SUMMIT COUNTY.
  - 6. NEAREST STREET ADDRESS IS 1405 E. HINES HILL RD, HUDSON, OH 44236
  - 7. NEAREST INTERSECTING STREET IS PROSPECT RD.
  - 8. DISTANCE TO NEAREST INTERSECTING STREET IS 771 FT.

(A) (B) (C) (D) = QUADRANT MARKERS

PROJECT: #10.2159  
RED = IN  
YELLOW = OUT  
DESIGN: 03-24-22  
PROGRESS RAIL  
CHECK: 05-23-22  
JMW

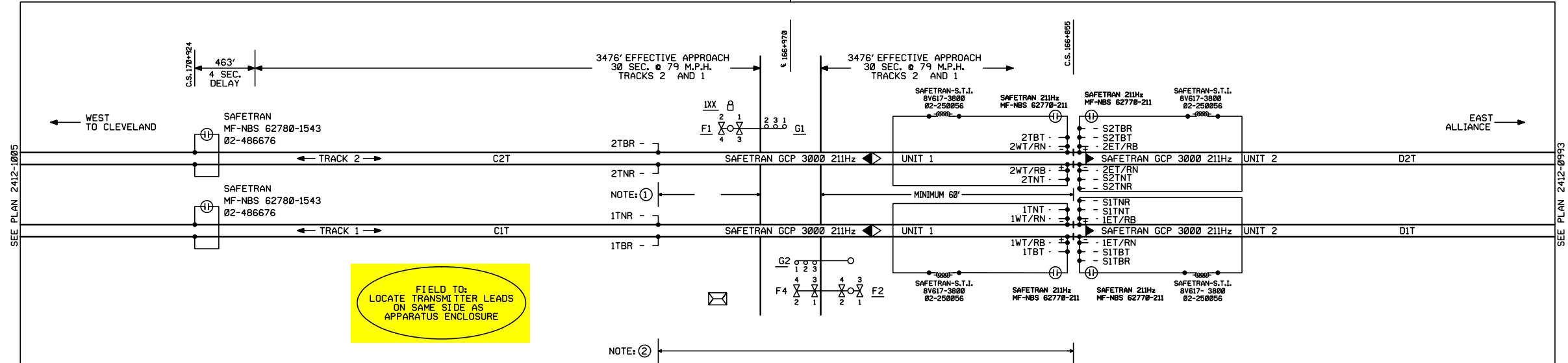
SCALE: 1" = 20'  
PROJECT #10.2159 LAYOUT FILE #CX1114630

DESIGNED BY:	NS NORFOLK SOUTHERN		
MST 03-24-22			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: RD-99.70
PRS 03-24-22			
CHECKED BY:	HUDSON, OH CFLGS AT HINES HILL ROAD		
JMW 05-23-22			
IN SERVICE:	CLEVELAND LINE	REV. 1	
	CADD or DWG. No. 24120997.001	SHEET No. 1	

PROPERTY  
PENNSYLVANIA R.R.

REV	DATE	CKD BY
1	3-1-89	RDW

C&S CAD




8' X 8' APPARATUS ENCLOSURE CABLE  
12 (2 COND. \*6), TWISTED U.G. CABLE TO TRACKS  
1 (12 COND. \*14), U.G. CABLE WEST  
1 (7 COND. \*14), U.G. CABLE EAST  
1 (2 COND. \*6) U.G. CABLE EAST  
1 (3 COND. \*2) U.G. CABLE TO 240 AC SERVICE  
2 (17 COND. 2\*6, 8\*9, 7\*14), U.G. CABLE TO GATES/FLASHERS  
1 (4 COND. \*9) U.G. CABLE TO CANTILEVER

- NOTES:
- ⊗ = DENOTES TWISTED PAIR  
GROUND IN ACCORDANCE WITH CS-9001-A
  - ① = 25' MINIMUM
  - ② = 120' MINIMUM
  - ③ EACH PAIR OF TRACK WIRES (TRANSMIT AND RECEIVE) SHOULD BE TWISTED AT LEAST TWO TURNS PER FOOT. THE TRANSMITTER PAIR SHOULD BE SEPARATED TO THE MAXIMUM EXTENT POSSIBLE FROM THE SAFETLAN RECEIVER PAIR BELOW GROUND AND IN APPARATUS ENCLOSURE.

TO BE VOIDED

PROJECT:  
#10.2159  
RED = IN  
YELLOW = OUT  
DESIGN: 03-24-22  
PROGRESS RAIL  
CHECK: 05-23-22  
JMW

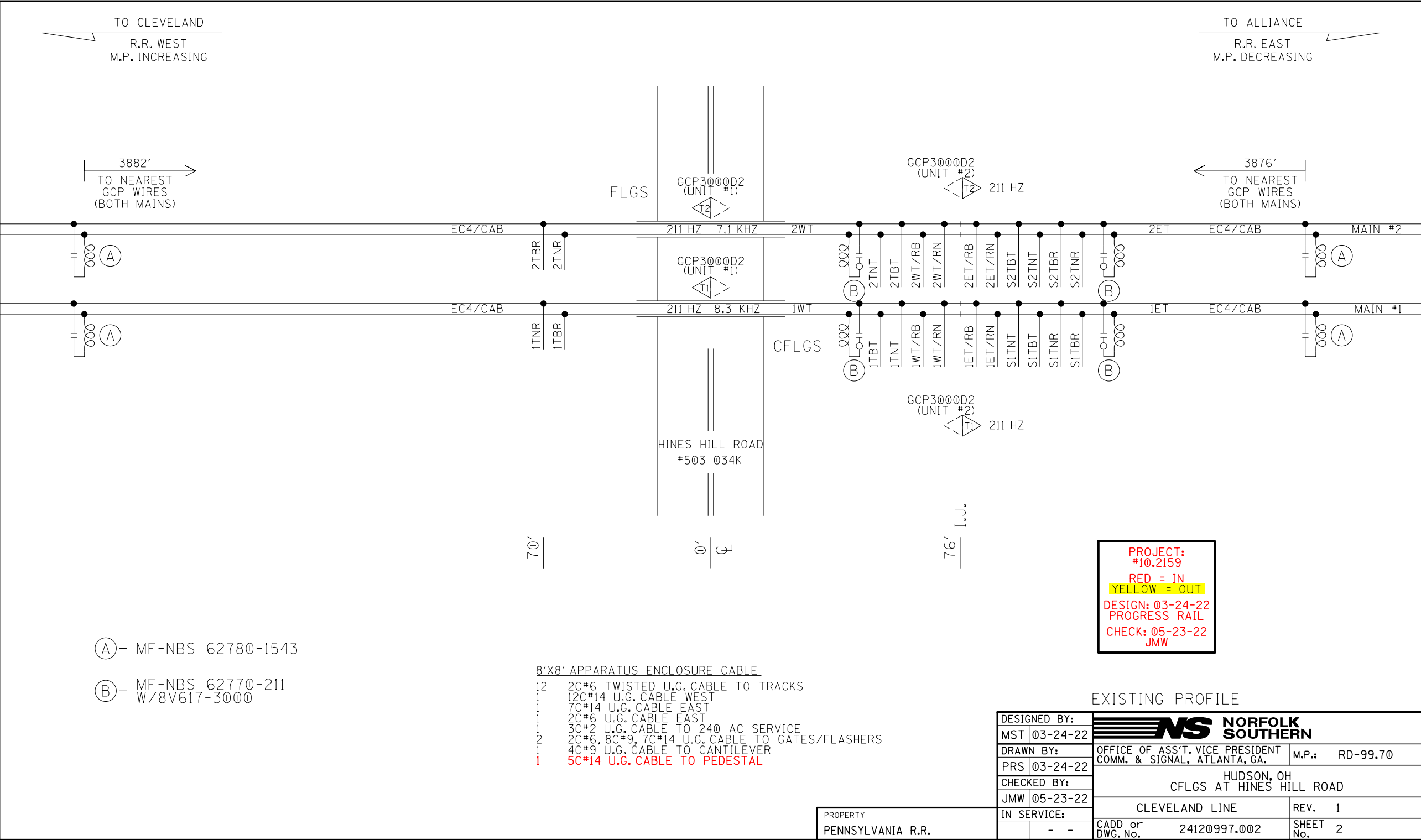


HINES HILL ROAD/REP 99.7      HIGHLAND SPRINGS, OHIO

HIGHWAY CROSSING  
LOCATION PLAN

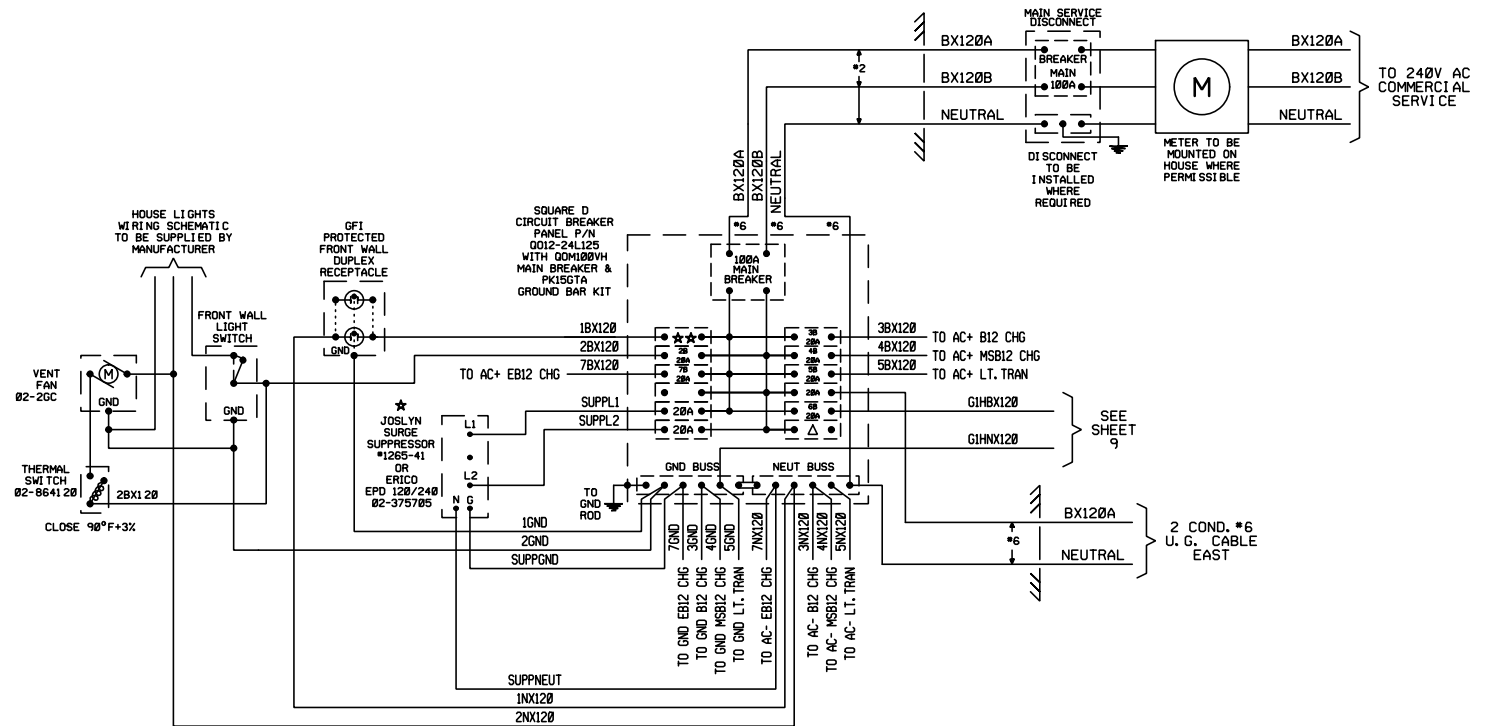
ISSUE DATE: NOVEMBER 30, 1998	2412-0997
REV. 3	07-30-01
SHEET 2	





(A) - MF-NBS 62780-1543

(B) - MF-NBS 62770-211  
W/8V617-3000



**[R]** = IF RECTIFIER CONTAINS D.C. VOLTAGE SENSING LEADS,  
RUN WIRES DIRECTLY TO BATTERY TERMINALS.

**⊗** = TWISTED PAIR

REV	DATE	CKD BY
1	3-29-95	HEI
2	5-4-95	JFB

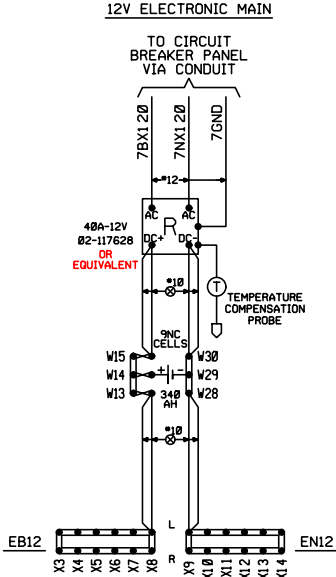
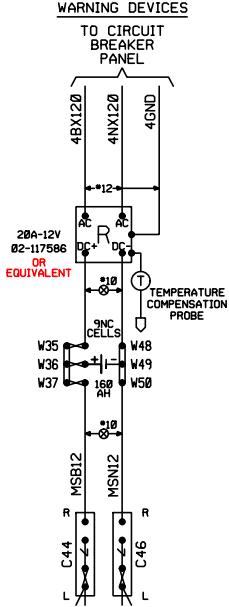
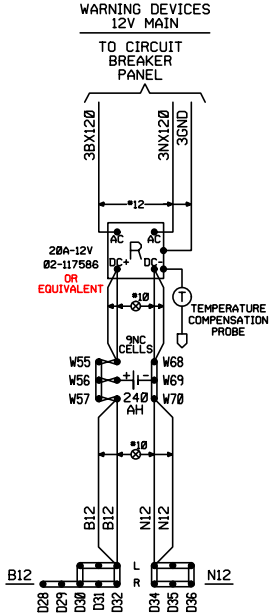


## POWER DISTRIBUTION CIRCUITS

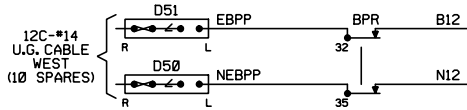
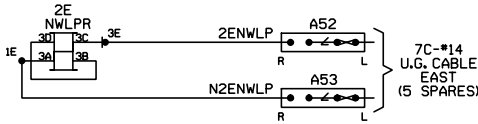
SWS	REV. 2	07-15-01	SHEET 3
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REV	DATE	CKD BY

C&S CAD



PROJECT:  
#10.2159  
RED = IN  
YELLOW = OUT  
DESIGN: 03-24-22  
PROGRESS RAIL  
CHECK: 05-23-22  
JMW



HINES HILL ROAD/REP 99.7 HIGHLAND SPRINGS, OHIO

HIGHWAY CROSSING  
POWER DISTRIBUTION  
AND CABLE CIRCUITS

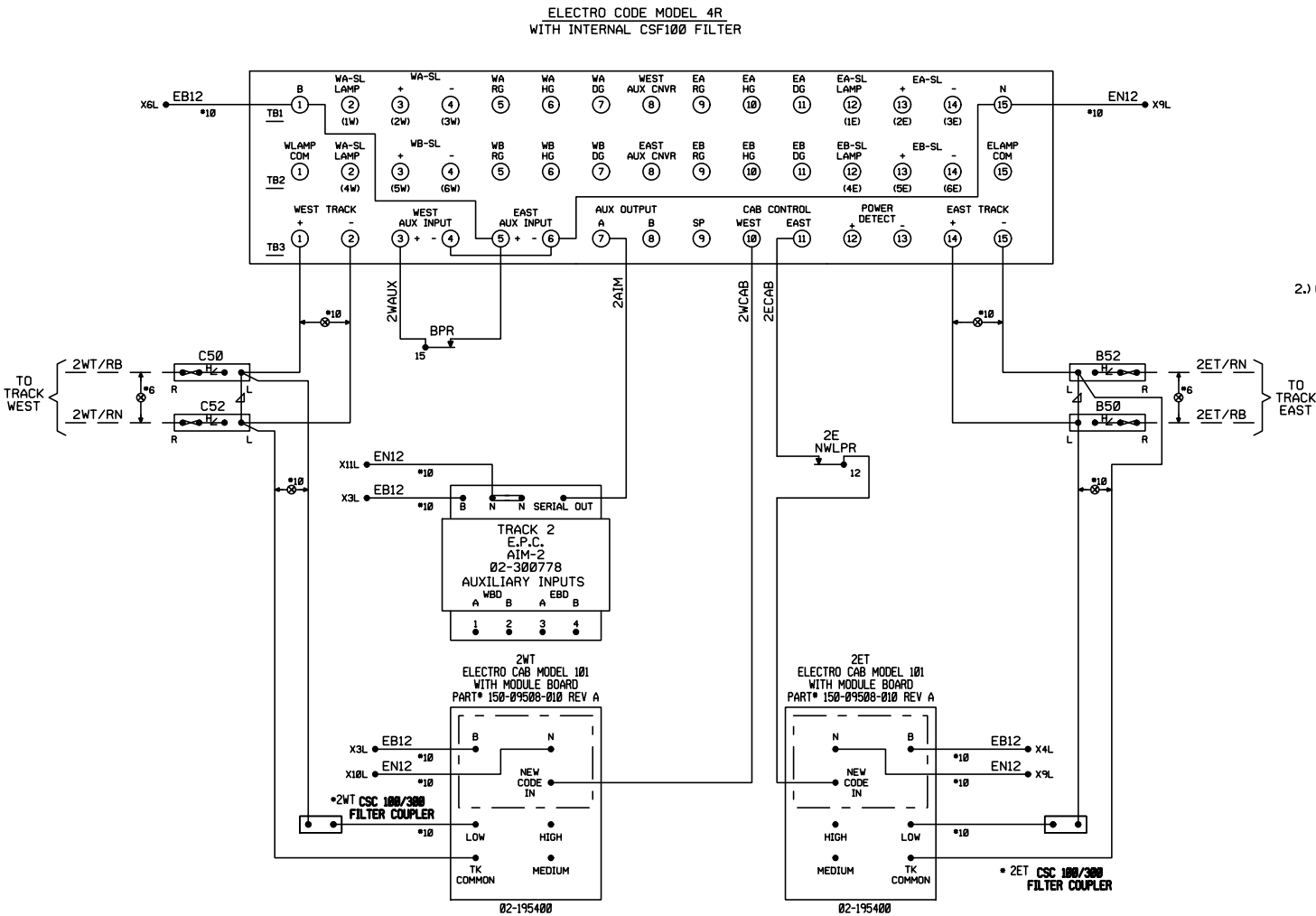
ISSUE DATE: NOVEMBER 30, 1998 2412-0997

REV. 3 05-23-22 SHEET 4

2 07-15-01

REV	DATE	CKD BY

C&S CAD

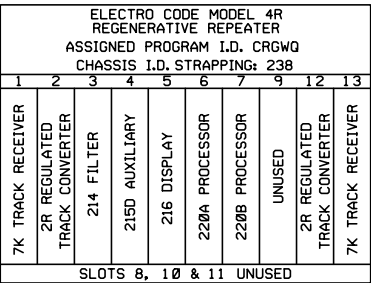


7.) AIM-2 JUMPERS (TIED TO B12 WHEN HIGH)

(A,B)	STICK	CAB UPGRADES			
(0,0)	NO	0 → 0	75 → 75	120 → 120	180 → 180
(0,1)	NO	0 → 75	75 → 75	120 → 120	180 → 180
(1,0)	YES	0 → 0	75 → 75	120 → 120	180 → 180
(1,1)	YES	0 → 75	75 → 75	120 → 120	180 → 180

NOTE:  
ELECTRO CODE 4 UNIT DOES NOT HAVE INTERNAL STICKS  
WITH CAB UPGRADE CAPABILITY.

NOTES:  
1.) BOARD LAYOUT (WITH INTERNAL CSF100 FILTER)



2.) CODES

2WT		TRACK 2		2ET
CAB OUT	CODE OUT	USAGE	TYPE	CODE IN
0	1	TRACK	SEMI-VTL	1
180	2	BLOCK CLEAR	VITAL	2
75	3	APPROACH WITH CAB	VITAL	3
120	4	APPROACH MEDIUM	VITAL	4
0	5	BLOCK INDICATION	NONVITAL	5
0	6	TUMBLEDOWN	NONVITAL	6
180	7	CLEAR	VITAL	7
0	1	CAB TURN ON	VITAL	8
0	9	APPROACH W/O CAB	VITAL	9
(NO STICK CAPABILITY)				

ELECTRO CODE 4 CODES WESTBOUND

2WT	TRACK 2		2ET	
CODE IN	TYPE	USAGE	CODE OUT	CAB OUT
1	SEMI-VTL	TRACK	1	0
2	VITAL	BLOCK CLEAR	2	0
3	VITAL	APPROACH WITH CAB	3	75
4	VITAL	APPROACH MEDIUM	4	120
5	NONVITAL	BLOCK INDICATION	5	0
6	NONVITAL	TUMBLEDOWN	6	0
7	VITAL	CLEAR	7	180
8	VITAL	CAB TURN ON	1	0
9	VITAL	APPROACH W/O CAB	9	0
(NO STICK CAPABILITY)				

3.) CODE 5 SELECT SWITCHES

EAST	C1	4	CLOSED
	C5	3	CLOSED
WEST	C1	2	OPEN
	C5	1	CLOSED

LOCATED ON  
215 MODULE  
(REPEATS CODE 5)

- 4.) \* = MOUNT FILTER COUPLER ADJACENT TO  
ELECTRO CAB 101.  
5.) ( ) = COLORLIGHT NOMENCLATURE.  
6.) 215D MODULE (WIRED AS OLD 215B CARD)  
JUMPER B REMOVED A,C&D LEFT ON.



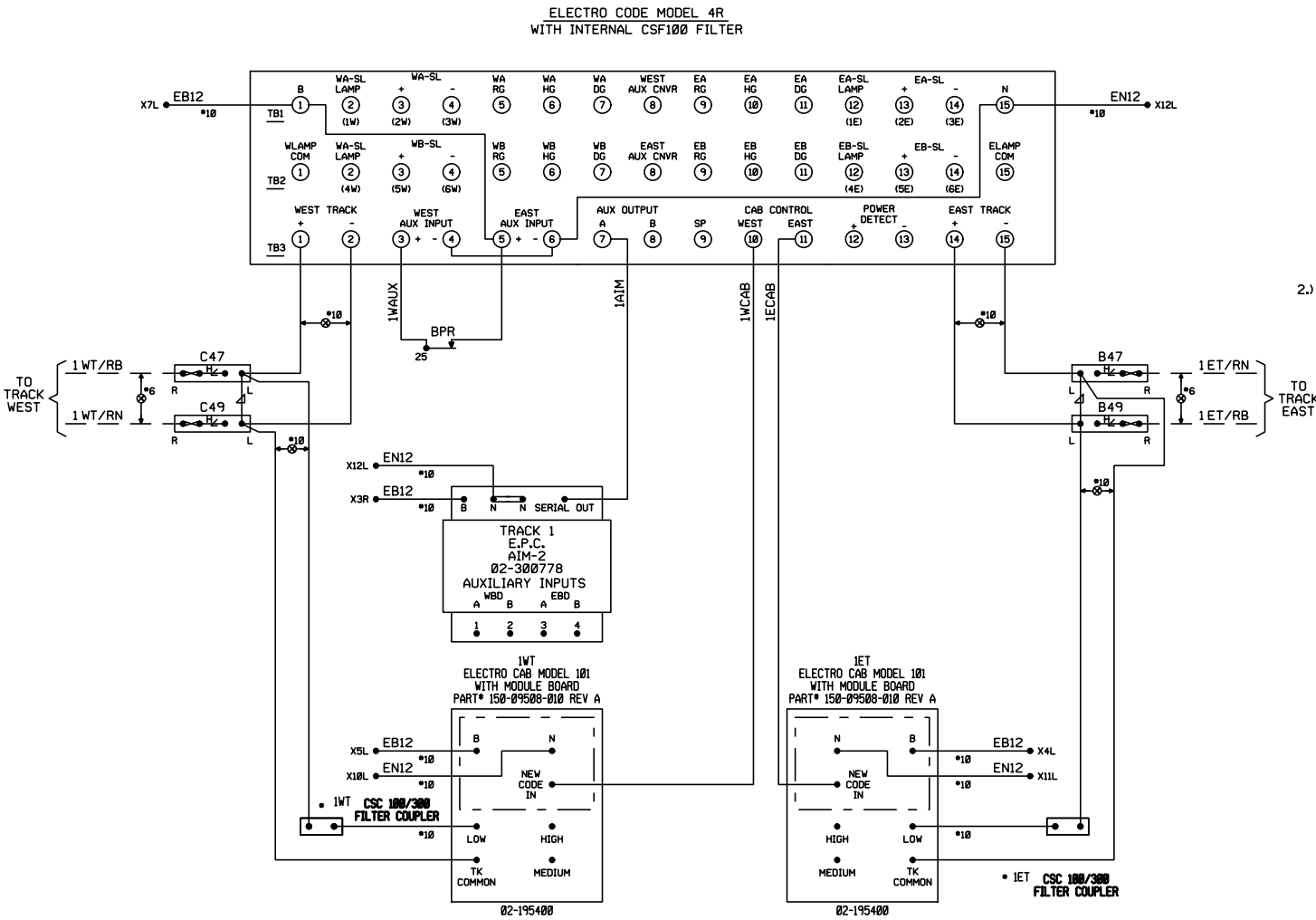
HINES HILL ROAD/REP 99.7 HIGHLAND SPRINGS, OHIO

ELECTRO CODE 4 CIRCUITS  
TRACK 2

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REV	DATE	CKD BY

C&S CAD

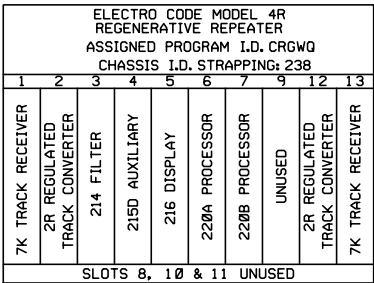


7.) AIM-2 JUMPERS (TIED TO B12 WHEN HIGH)

(A,B)	STICK	CAB UPGRADES			
(0,0)	NO	0 → 0	75 → 75	120 → 120	180 → 180
(0,1)	NO	0 → 75	75 → 75	120 → 120	180 → 180
(1,0)	YES	0 → 0	75 → 75	120 → 120	180 → 180
(1,1)	YES	0 → 75	75 → 75	120 → 120	180 → 180

NOTE:  
ELECTRO CODE 4 UNIT DOES NOT HAVE INTERNAL STICKS  
WITH CAB UPGRADE CAPABILITY.

NOTES:  
1.) BOARD LAYOUT (WITH INTERNAL CSF100 FILTER)



2.) CODES

1WT		TRACK 1		1ET
CAB OUT	CODE OUT	USAGE	TYPE	CODE IN
0	1	TRACK	SEMI-VTL	1
180	2	BLOCK CLEAR	VITAL	2
75	3	APPROACH WITH CAB	VITAL	3
120	4	APPROACH MEDIUM	VITAL	4
0	5	BLOCK INDICATION	NONVITAL	5
0	6	TUMBLEDOWN	NONVITAL	6
180	7	CLEAR	VITAL	7
0	1	CAB TURN ON	VITAL	8
0	9	APPROACH W/O CAB	VITAL	9
(NO STICK CAPABILITY)				

1WT	TRACK 1		1ET	
CODE IN	TYPE	USAGE	CODE OUT	CAB OUT
1	SEMI-VTL	TRACK	1	0
2	VITAL	BLOCK CLEAR	2	0
3	VITAL	APPROACH WITH CAB	3	75
4	VITAL	APPROACH MEDIUM	4	120
5	NONVITAL	BLOCK INDICATION	5	0
6	NONVITAL	TUMBLEDOWN	6	0
7	VITAL	CLEAR	7	180
8	VITAL	CAB TURN ON	1	0
9	VITAL	APPROACH W/O CAB	9	0
(NO STICK CAPABILITY)				

3.) CODE 5 SELECT SWITCHES

EAST	C1	4	CLOSED
	C5	3	CLOSED
	C1	2	OPEN
	C5	1	CLOSED
WEST			

LOCATED ON  
215 MODULE  
(REPEATS CODE 5)

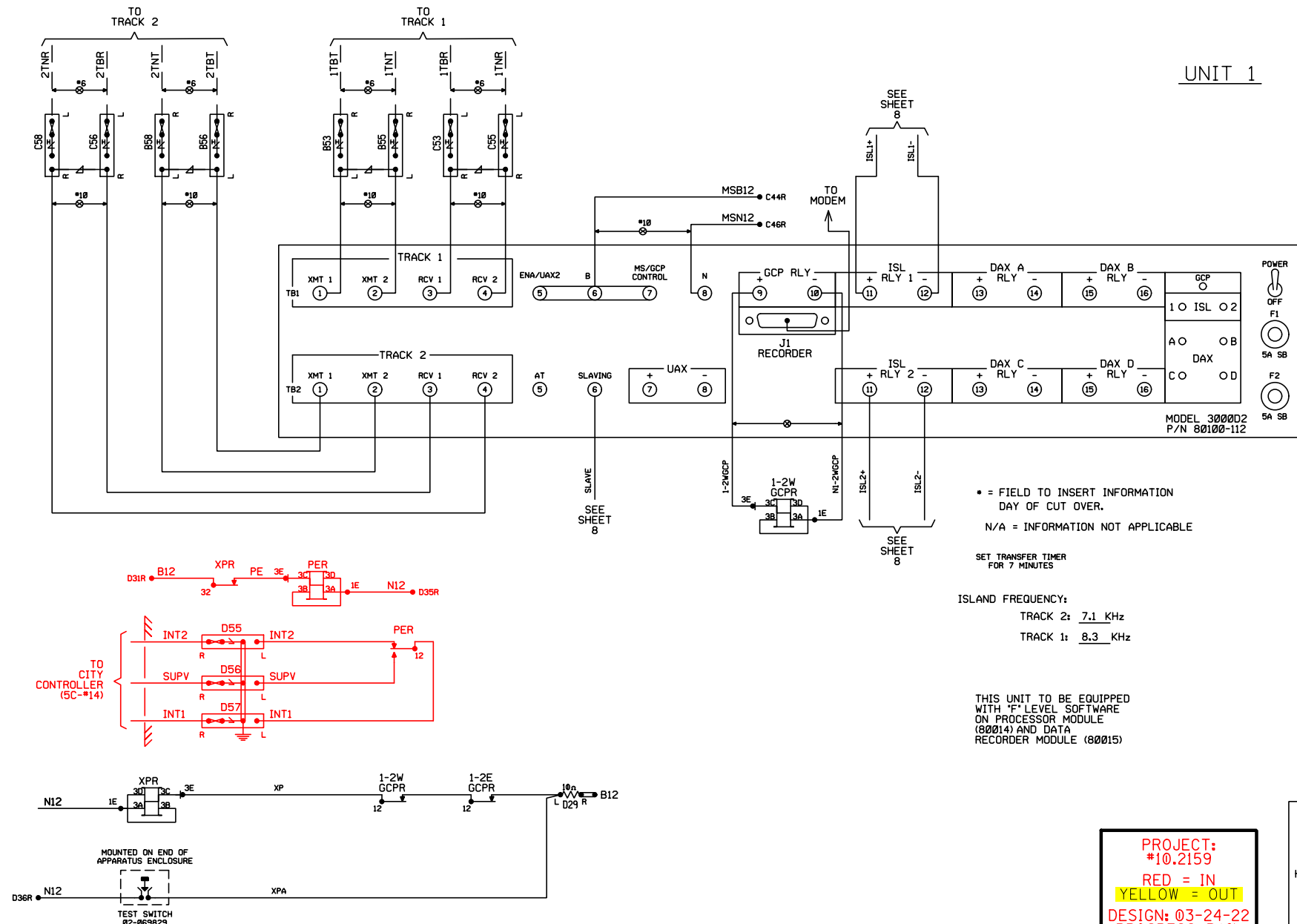
- 4.) \* = MOUNT FILTER COUPLER ADJACENT TO ELECTRO CAB 101.  
5.) ( ) = COLORLIGHT NOMENCLATURE.  
6.) 215D MODULE (WIRED AS OLD 215B CARD) JUMPER B REMOVED A,C&D LEFT ON.



HINES HILL ROAD/REP 99.7 HIGHLAND SPRINGS, OHIO

ELECTRO CODE 4 CIRCUITS  
TRACK 1

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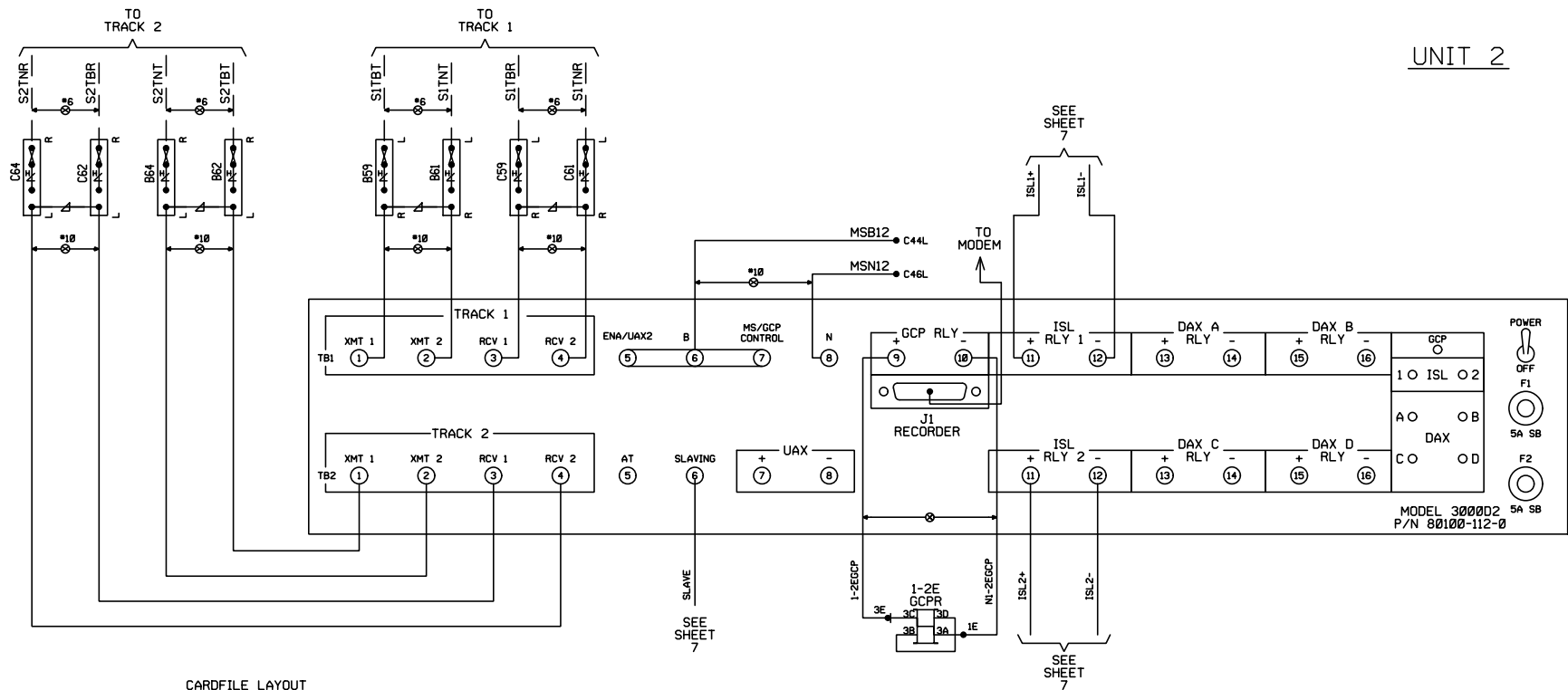
SYSTEM PROGRAMMING PARAMETERS	
PROMPT	RESPONSE
NUMBER OF TRACKS	2 TRACK
FREQUENCY (MS/GCP)	211 Hz
UNI/BIDIRECTIONAL T1	BIDIRECTIONAL
UNI/BIDIRECTIONAL T2	BIDIRECTIONAL
XMIT LEVEL T1	MAX
XMIT LEVEL T2	MAX
PREDICTOR/MOTION SENSOR T1	PREDICTOR
PREDICTOR/MOTION SENSOR T2	PREDICTOR
WARNING TIME SELECTED T1	30 SEC.
WARNING TIME SELECTED T2	30 SEC.
APPROACH DIST. SELECTED T1	3990 FT.
APPROACH DIST. SELECTED T2	3990 FT.
APPROACH DIST. COMPUTED T1	N/A FT.
APPROACH DIST. COMPUTED T2	N/A FT.
UAX PICKUP DELAY(0=OFF)	0-SEC.
ENA/UAX2 PICKUP DELAY(0=ENA)	15-SEC.
NUMBER OF DAX'S	0
ISLAND DISTANCE T1	• FT.
ISLAND DISTANCE T2	• FT.
DAX A TRACK ASSIGNMENT	N/A
DAX A DISTANCE (0=PREEMPT)	N/A FT.
DAX A WARNING TIME	N/A SEC.
DAX B TRACK ASSIGNMENT	N/A
DAX B DISTANCE (0=PREEMPT)	N/A FT.
DAX B WARNING TIME	N/A SEC.
DAX C TRACK ASSIGNMENT	N/A
DAX C DISTANCE (0=PREEMPT)	N/A FT.
DAX C WARNING TIME	N/A SEC.
DAX D TRACK ASSIGNMENT	N/A
DAX D DISTANCE (0=PREEMPT)	N/A FT.
DAX D WARNING TIME	N/A SEC.
SLAVING MASTER/SLAVE	MASTER
PASSWORD ENABLED	DISABLED
RECORDER INSTALLED	INSTALLED
RS-232-C BAUD RATE	
RS-232-C DATA BITS	
RS-232-C STOP BITS	
RS-232-C PARITY	
DATE(E.G., MON 16 NOV 1987)	•
TIME(E.G., 11:25:43 AM)	•
DAYLIGHT SAVINGS	ON/OFF
EXPANDED PROGRAMMING HISTORY	
SWITCH TO MS T1	10-EZ
SWITCH TO MS T2	10-EZ
TRANSFER DELAY MS TO GCP T1	0-SEC.
TRANSFER DELAY MS TO GCP T2	0-SEC.
PRIME PREDICTION OFFSET T1	0-FT.
PRIME PREDICTION OFFSET T2	0-FT.
PICKUP DELAY PRIME	15-SEC.
PICKUP DELAY DAX A	15-SEC.
PICKUP DELAY DAX B	15-SEC.
PICKUP DELAY DAX C	15-SEC.
PICKUP DELAY DAX D	15-SEC.
COMPENSATION VALUE T1	SET BY SYSTEM
COMPENSATION VALUE T2	SET BY SYSTEM
NUMBER OF TRACK WIRES T1	4 WIRES
NUMBER OF TRACK WIRES T2	4 WIRES



HINES HILL ROAD/REP 99.7 HIGHLAND SPRINGS, OHIO

UNIT 1  
DUAL SEMI-BI-DIRECTIONAL GCP  
MODEL 3000D2 02-806766  
TRACKS 1 & 2 WEST

ISSUE DATE: NOVEMBER 30, 1998	2412-0997
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CARDFILE LAYOUT

AAR TERMINALS											
M1	ISLAND MODULE	M2	ISLAND MODULE	M3	TRANSCIEVER MODULE	M4	TRANSCIEVER MODULE	M5	RELAY DRIVE MODULE	M6	PROCESSOR MODULE
M7	DATA RECORDER MODULE	M8	DAX MODULE	M9	DAX MODULE	M10	CONTROL INTERFACE MODULE	M11	ISLAND MODULE	M12	ISLAND MODULE
M13	TRANSCIEVER MODULE	M14	TRANSCIEVER MODULE	M15	RELAY DRIVE MODULE	M16	PROCESSOR MODULE	M17	DATA RECORDER MODULE	M18	DAX MODULE
M19	DAX MODULE	M20	CONTROL INTERFACE MODULE	M21	TRANSFER MODULE						

REQUIRED MODULES

PART NUMBER AND MODULE NAME	UPPER BAY	LOWER BAY
80011-F (Hz) ISLAND MODULE	NONE	NONE
80012 TRANSCIEVER MODULE	M3-M4	M13-M14
80013 RELAY DRIVE MODULE	M5	M15
80014 PROCESSOR MODULE	M6	M16
80015 DATA RECORDER MODULE	M7	M17
80016-1,-2 DAX MODULE	NONE	NONE
80020 CONTROL MODULE INCLUDES	M10	M20
80017 KEYBOARD DISPLAY INTERFACE		
80028 TRANSFER MODULE		M21

SET TRANSFER TIMER  
FOR 7 MINUTES

\* = FIELD TO INSERT INFORMATION  
DAY OF CUT OVER.

N/A = INFORMATION NOT APPLICABLE

ISLAND FREQUENCY:

TRACK 2: N/A KHz

TRACK 1: N/A KHz

THIS UNIT TO BE EQUIPPED  
WITH 'F' LEVEL SOFTWARE  
ON PROCESSOR MODULE  
(80014) AND DATA  
RECORDER MODULE (80015)

UNIT 2

SYSTEM PROGRAMMING PARAMETERS	
PROMPT	RESPONSE
NUMBER OF TRACKS	2 TRACK
FREQUENCY (MS/GCP)	211 Hz
UNI/BIDIRECTIONAL T1	BIDIRECTIONAL
UNI/BIDIRECTIONAL T2	BIDIRECTIONAL
XMIT LEVEL T1	MAX
XMIT LEVEL T2	MAX
PREDICTOR/MOTION SENSOR T1	PREDICTOR
PREDICTOR/MOTION SENSOR T2	PREDICTOR
WARNING TIME SELECTED T1	30 SEC.
WARNING TIME SELECTED T2	30 SEC.
APPROACH DIST. SELECTED T1	3990 FT.
APPROACH DIST. SELECTED T2	3990 FT.
APPROACH DIST. COMPUTED T1	N/A FT.
APPROACH DIST. COMPUTED T2	N/A FT.
UAX PICKUP DELAY(0=OFF)	20-SEC.
ENAX/UAX2 PICKUP DELAY(0=ENAX)	20-SEC.
NUMBER OF DAX'S	0
ISLAND DISTANCE T1	0 FT.
ISLAND DISTANCE T2	0 FT.
DAX A TRACK ASSIGNMENT	N/A
DAX A DISTANCE (0=PREEMPT)	N/A FT.
DAX A WARNING TIME	N/A SEC.
DAX B TRACK ASSIGNMENT	N/A
DAX B DISTANCE (0=PREEMPT)	N/A FT.
DAX B WARNING TIME	N/A SEC.
DAX C TRACK ASSIGNMENT	N/A
DAX C DISTANCE (0=PREEMPT)	N/A FT.
DAX C WARNING TIME	N/A SEC.
DAX D TRACK ASSIGNMENT	N/A
DAX D DISTANCE (0=PREEMPT)	N/A FT.
DAX D WARNING TIME	N/A SEC.
SLAVING MASTER/SLAVE	SLAVE
PASSWORD ENABLED	DISABLED
RECORDER INSTALLED	INSTALLED
RS-232-C BAUD RATE	
RS-232-C DATA BITS	
RS-232-C STOP BITS	
RS-232-C PARITY	
DATE(E.G., MON 8 JUN 1957)	*
TIME(E.G., 11:25:43 AM)	*
DAYLIGHT SAVINGS	ON/OFF
EXPANDED PROGRAMMING HISTORY	
SWITCH TO MS T1	10-EZ
SWITCH TO MS T2	10-EZ
TRANSFER DELAY MS TO GCP T1	0-SEC.
TRANSFER DELAY MS TO GCP T2	0-SEC.
PRIME PREDICTION OFFSET T1	0-FT.
PRIME PREDICTION OFFSET T2	0-FT.
PICKUP DELAY PRIME	15-SEC.
PICKUP DELAY DAX A	15-SEC.
PICKUP DELAY DAX B	15-SEC.
PICKUP DELAY DAX C	15-SEC.
PICKUP DELAY DAX D	15-SEC.
COMPENSATION VALUE T1	SET BY SYSTEM
COMPENSATION VALUE T2	SET BY SYSTEM
NUMBER OF TRACK WIRES T1	4 WIRES
NUMBER OF TRACK WIRES T2	4 WIRES



HINES HILL ROAD/REP 99.7

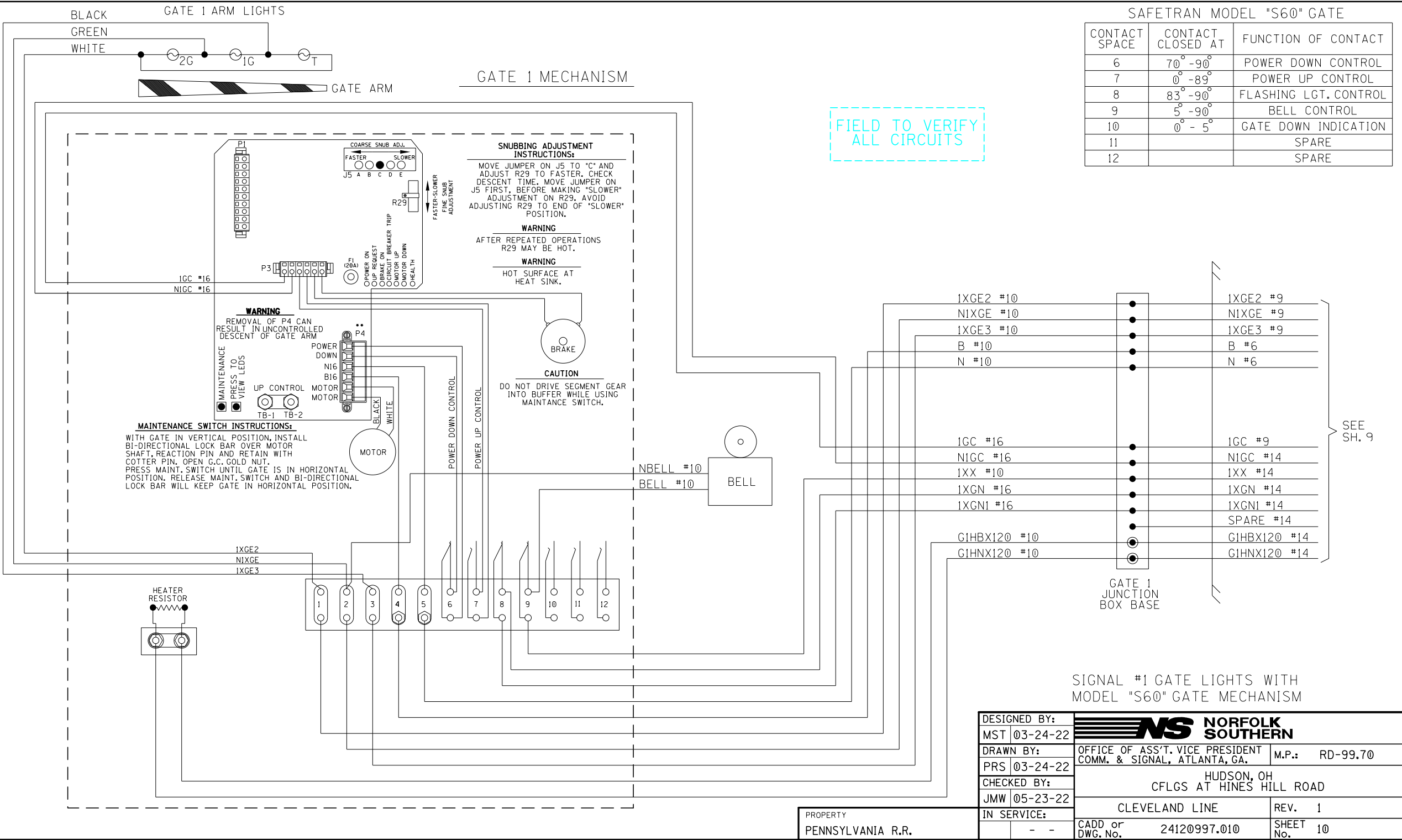
HIGHLAND SPRINGS, OHIO

UNIT 2  
DUAL SEMI-BI-DIRECTIONAL GCP  
MODEL 3000D2 02-806782  
TRACKS 1 & 2 EAST

ISSUE DATE: NOVEMBER 30, 1998	2412-0997
REV. 2	07-15-01
SHEET 8	







SAFETRAN MODEL "S60" GATE		
CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
6	70° - 90°	POWER DOWN CONTROL
7	0° - 89°	POWER UP CONTROL
8	83° - 90°	FLASHING LGT. CONTROL
9	5° - 90°	BELL CONTROL
10	0° - 5°	GATE DOWN INDICATION
11		SPARE
12		SPARE

**WARNING**  
REMOVAL OF P4 CAN  
RESULT IN UNCONTROLLED  
DESCENT OF GATE ARM

**MAINTENANCE**  
PRESS TO  
VIEW LEDS

UP CONTROL  
TB-1 TB-2

**MAINTENANCE SWITCH INSTRUCTIONS:**  
WITH GATE IN VERTICAL POSITION, INSTALL  
BI-DIRECTIONAL LOCK BAR OVER MOTOR  
SHAFT, REACTION PIN AND RETAIN WITH  
COTTER PIN. OPEN G.C. GOLD NUT.  
PRESS MAINT. SWITCH UNTIL GATE IS IN HORIZONTAL  
POSITION. RELEASE MAINT. SWITCH AND BI-DIRECTIONAL  
LOCK BAR WILL KEEP GATE IN HORIZONTAL POSITION.


**SNUBBING ADJUSTMENT INSTRUCTIONS:**  
MOVE JUMPER ON J5 TO 'C' AND  
ADJUST R29 TO FASTER. CHECK  
DESCENT TIME. MOVE JUMPER ON  
J5 FIRST, BEFORE MAKING 'SLOWER'  
ADJUSTMENT ON R29. AVOID  
ADJUSTING R29 TO END OF 'SLOWER'  
POSITION.

**WARNING**  
AFTER REPEATED OPERATIONS  
R29 MAY BE HOT.

**WARNING**  
HOT SURFACE AT  
HEAT SINK.

**CAUTION**  
DO NOT DRIVE SEGMENT GEAR  
INTO BUFFER WHILE USING  
MAINTENANCE SWITCH.

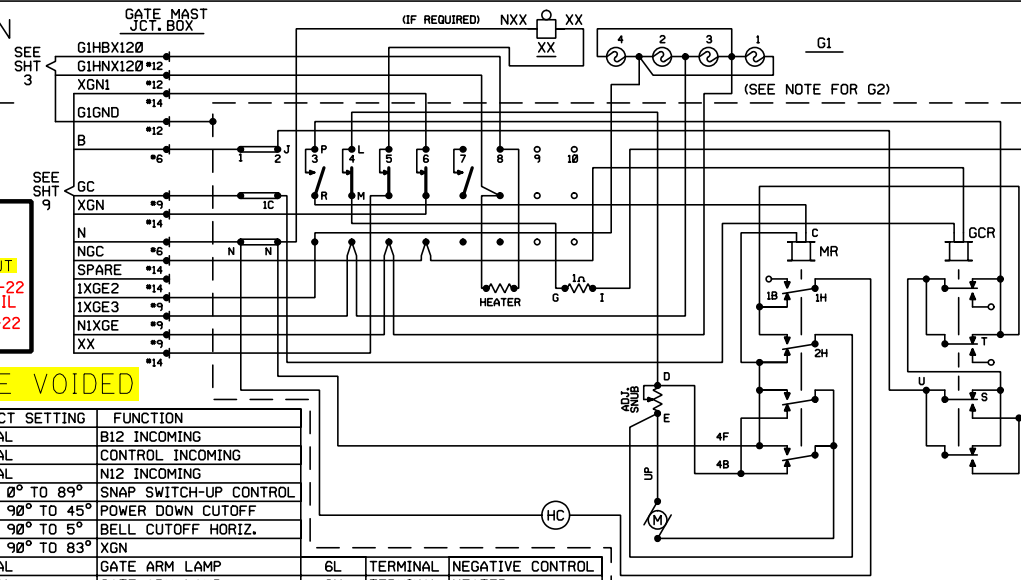
SIGNAL #1 GATE LIGHTS WITH  
MODEL "S60" GATE MECHANISM

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>	
MST 03-24-22	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-99.70
DRAWN BY:	HUDSON, OH	
PRS 03-24-22	CFLGS AT HINES HILL ROAD	
CHECKED BY:	CLEVELAND LINE	
JMW 05-23-22	REV. 1	
IN SERVICE:	CADD or DWG. No.	SHEET 10
	- -	24120997.010

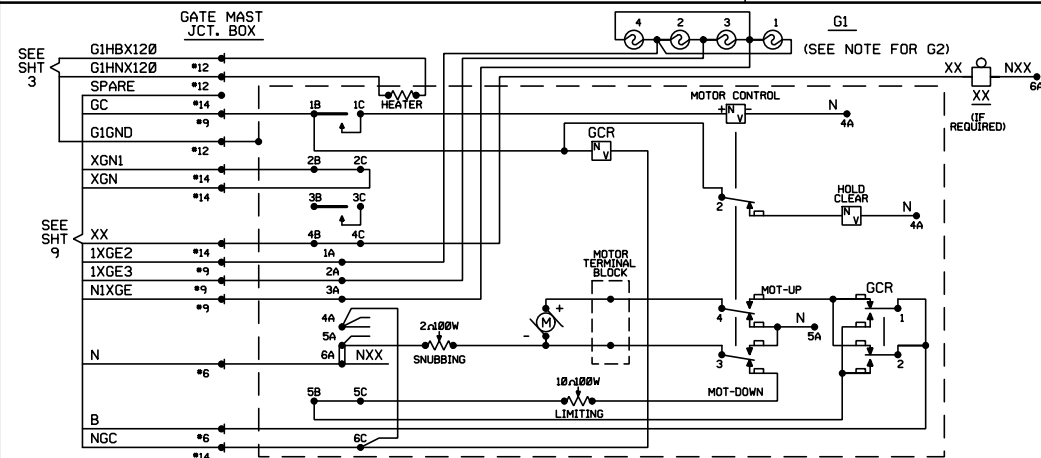
PROPERTY  
PENNSYLVANIA R.R.

PROJECT:  
#10.2159  
RED = IN  
YELLOW = OUT  
DESIGN: 03-24-22  
PROGRESS RAIL  
CHECK: 05-23-22  
JMW

LOCATION	CONTACT SETTING	FUNCTION
1U	TERMINAL	B12 INCOMING
1C	TERMINAL	CONTROL INCOMING
1L	TERMINAL	N12 INCOMING
3	CLOSED 0° TO 89°	SNAP SWITCH-UP CONTROL
4	CLOSED 90° TO 45°	POWER DOWN CUTOFF
5	CLOSED 90° TO 5°	BELL CUTOFF HORIZ.
6	CLOSED 90° TO 83°	XGN
3L	TERMINAL	GATE ARM LAMP
4L	TERMINAL	GATE ARM LAMP
5L	TERMINAL	GATE ARM LAMP
7	CLOSED 0° TO 10°	CUSTOMER USE

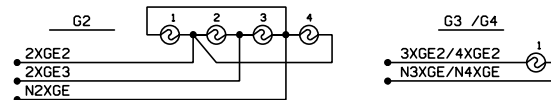


MODEL 85 GATE WIRING DIAGRAM-GATE SHOWN IN VERTICAL POSITION



CIRCUIT CONTROLLER DATA			
CONTACT	CONTACT CLOSED	CAM DRIVES CONTACT	CONTACT FUNCTION
1B-1C	8°-89° UP 83° 80° DOWN	CLOSED	TO CUT OFF MOTOR AFTER GATE HAS CLEARED
2B-2C	86°-93°	CLOSED	CONTROL XGN RELAY
3B-3C	10°-10°	CLOSED	SPARE
4B-4C	5°-93°	OPEN	TO OPEN BELL CIRCUIT WHEN ARM IS HORIZONTAL
5B-5C	46°-93°	OPEN	TO OPEN MOTOR DOWN CIRCUIT

NOTE: MECHANISMS SHOWN FOR GATE ARMS  
IN VERTICAL POSITION. EACH HIGHWAY  
GATE TO BE WIRED SAME AS SHOWN,  
EXCEPT FOR LIGHTS (SEE DIAGRAM G2).  
SIDEWALK ARMS ON HIGHWAY GATES  
TO HAVE STEADY-LIT LIGHT. 4XGN1 IN  
G4 WILL BECOME B12.



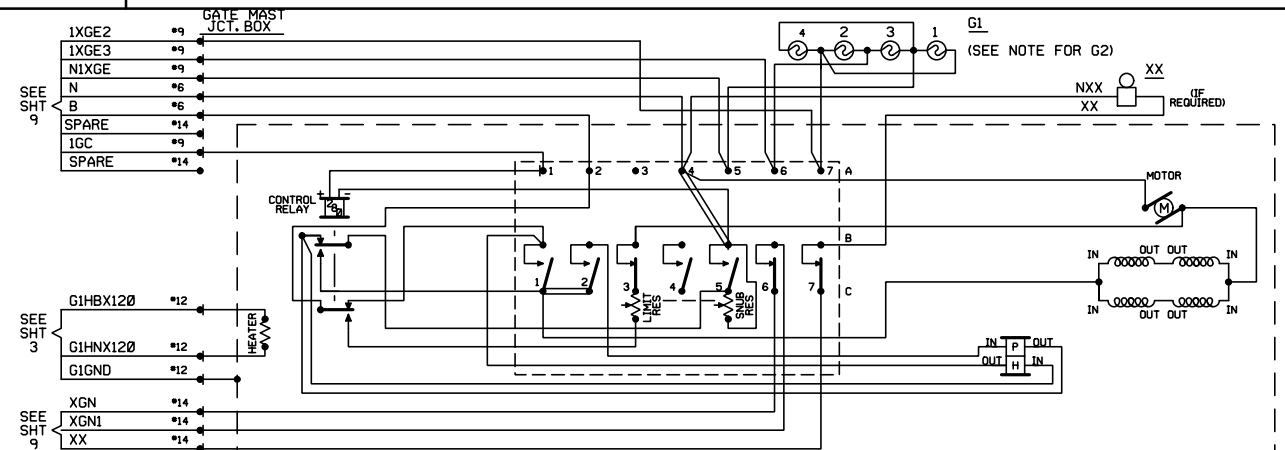
REV	DATE	CKD BY
1	5-21-91	ELE
1	5-21-91	RAK
2	3-29-95	HEI

**CIRCUIT CONTROLLER OPERATION AND FUNCTIONS**

CONTACT	CLOSED	FUNCTION
1		
2		
3	45°-90°	MOTOR DOWN
4	0°-89°	MOTOR UP
5	86°-90°	XGNR CONTROL
6	5°-90°	BELL CONTROL
7	0°- 5°	SNUB

**WESTERN-CULLEN-HAYES**  
3593B CROSSING GATE

CIRCUIT CONTROLLER OPERATION AND FUNCTIONS		
CONTACT	CLOSED	FUNCTION
1		
2		
3	45°-90°	MOTOR DOWN
4	0°-89°	MOTOR UP
5	86°-90°	XGNR CONTR
6	5°-90°	BELL CONTR
7	0°- 5°	SNUB



G.R.S. MODEL 10 WITH 3567 MECHANISM

CIRCUIT CONTROLLER OPERATION AND FUNCTIONS					
CONTACT SPACE NO.	CLEARING		DESCENDING		FUNCTION OF CONTACT
	CLOSES	OPENS	CLOSES	OPENS	
1	--	88°	78°	--	UP MOTOR CUT-OUT
2	76°	85°	85°	76°	HOLD CLEAR CONTROL
3	--	--	--	--	DOWN MOTOR CUT-OUT
4	--	5°	5°	--	SPARE
5	--	5°	5°	--	SNUB RESISTOR SHUNT
6	85°	--	--	85°	XGNR CONTROL
7	6°	--	--	6°	RELL CONTROL



HINES HILL ROAD/REP 99.7

HIGHLAND SPRINGS, OHIO

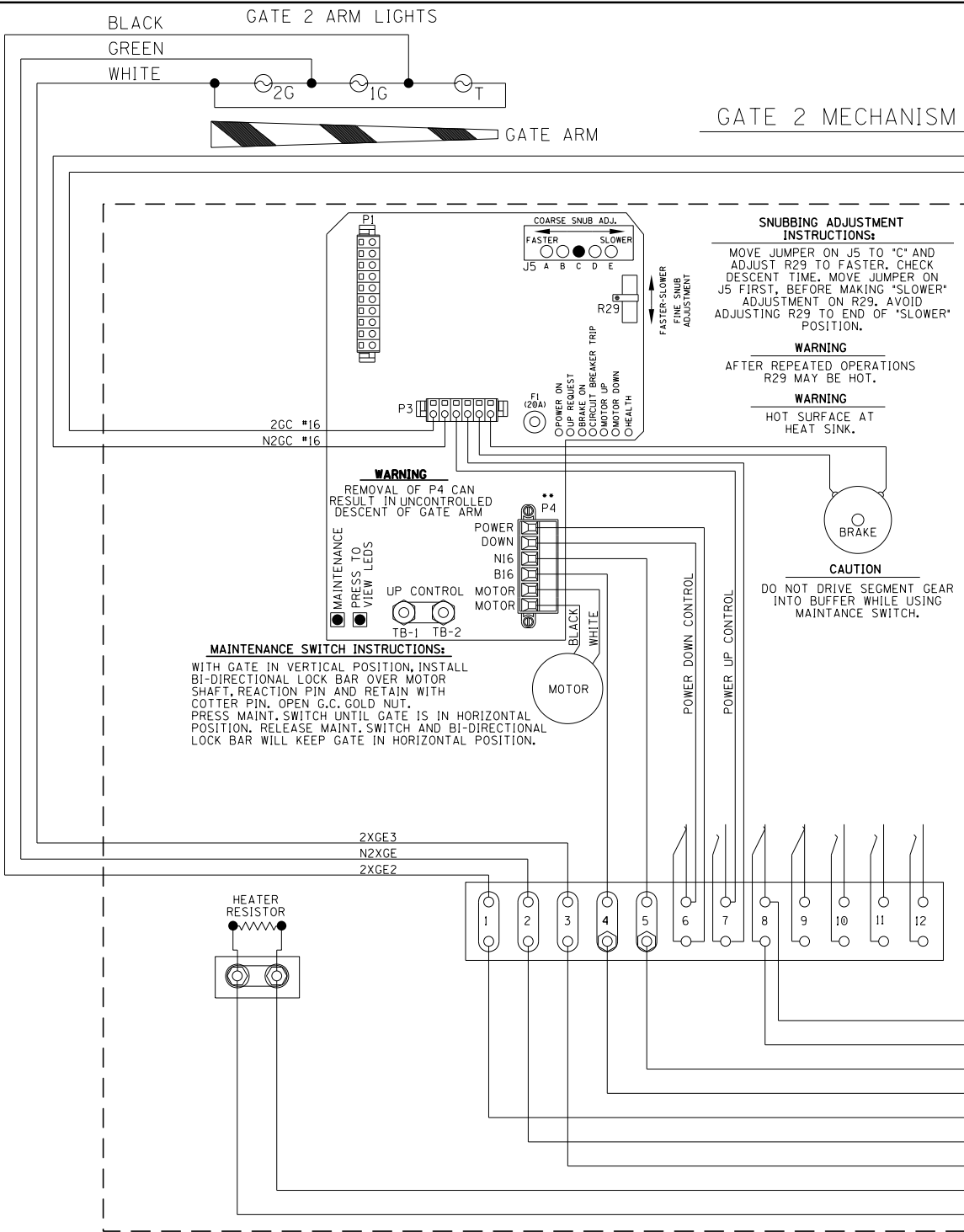
HIGHWAY CROSSING  
GATE MECHANISM TYPICAL

ISSUE DATE: NOVEMBER 30, 1998

2412-0997

SWS	REV. 2	07-15-01
SWS		
SWS		

SHEET 10




FIELD TO VERIFY  
ALL CIRCUITS

SAFETRAN MODEL "S60" GATE		
CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
6	70° - 90°	POWER DOWN CONTROL
7	0° - 89°	POWER UP CONTROL
8	83° - 90°	FLASHING LGT. CONTROL
9	5° - 90°	BELL CONTROL
10	0° - 5°	GATE DOWN INDICATION
11		SPARE
12		SPARE

2XGE2 #10	2XGE2 #9
N2XGE #10	N2XGE #9
2XGE3 #10	2XGE3 #9
B #10	B #6
N #10	N #6
SEE SH. 9	
2GC #16	2GC #9
N2GC #16	N2GC #14
	SPARE #14
2XGN #16	2XGN #14
2XGN1 #16	2XGN1 #14
	SPARE #14
G2HBX120 #10	G2HBX120 #14
G2HNX120 #10	G2HNX120 #14

GATE 2  
JUNCTION  
BOX BASE

SIGNAL #2 GATE LIGHTS WITH  
MODEL "S60" GATE MECHANISM

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>	
MST 03-24-22		
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: RD-99.70
PRS 03-24-22		
CHECKED BY:	HUDSON, OH CFLGS AT HINES HILL ROAD	
JMW 05-23-22		
IN SERVICE:	CLEVELAND LINE	REV. 1
	CADD or DWG. No. 24120997.011	SHEET 11

PROPERTY  
PENNSYLVANIA R.R.

RELAY FUNCTIONS

POR  
HD12- EBX  
HD15- ENX  
HD22- EBX  
HD25- ENX  
HD32- EBX  
HD35- ENX

EOR  
12- EX  
15- EX  
32- EX  
35- EX

XPR  
12- XGN  
15- XX  
22- NGC  
25- GC  
32- PE  
35-

XGNR  
HDB13-EBX  
HDB15-EBX  
32-EO  
35-XGNP

XGNPR  
22-NGC  
25-GC

1-2W  
GCPR  
12- XP  
15-  
22-  
25-  
32-  
35-

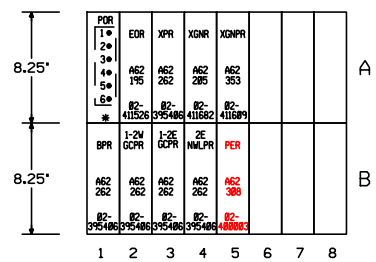
1-2E  
GCPR  
12- XP  
15-  
22-  
25-  
32-  
35-

BPR  
12-  
15- 2WAUX  
22-  
25- 1WAUX  
32- EBPP  
35- NEBPP

2E  
NWLPR  
12- 2ECAB  
15-  
22-  
25-  
32-  
35-

PER  
12- INT2  
15-  
22-  
25-  
32-  
35-

RELAY RACK  
FRONT



UNIT 1

REQUIRED MODULES

PART NUMBER AND MODULE NAME	UPPER BAY	LOWER BAY
80011-F (HZ) ISLAND MODULE	M1-M2	M11-M12
80012 TRANSCEIVER MODULE	M3-M4	M13-M14
80013 RELAY DRIVE MODULE	M5	M15
80014 PROCESSOR MODULE	M6	M16
80015 DATA RECORDER MODULE	M7	M17
80016-1,-2 DAX MODULE	NONE	NONE
80020 CONTROL MODULE INCLUDES 80017 KEYBOARD DISPLAY INTERFACE	M10	M20
80028 TRANSFER MODULE		M21

PROJECT:  
\*10.2159  
RED = IN  
YELLOW = OUT  
DESIGN: 03-24-22  
PROGRESS RAIL  
CHECK: 05-23-22  
JMW

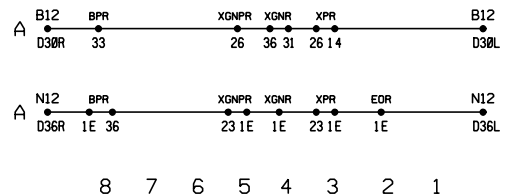
AAR TERMINALS

AAR TERMINALS											
ISLAND MODULE	ISLAND MODULE	TRANSCEIVER MODULE	TRANSCEIVER MODULE	RELAY DRIVE MODULE	PROCESSOR MODULE	DATA RECORDER MODULE	DAX MODULE	DAX MODULE	CONTROL INTERFACE MODULE		
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10		
ISLAND MODULE	ISLAND MODULE	TRANSCEIVER MODULE	TRANSCEIVER MODULE	RELAY DRIVE MODULE	PROCESSOR MODULE	DATA RECORDER MODULE	DAX MODULE	DAX MODULE	CONTROL INTERFACE MODULE	TRANSFER MODULE	
M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	

CARDFILE LAYOUT

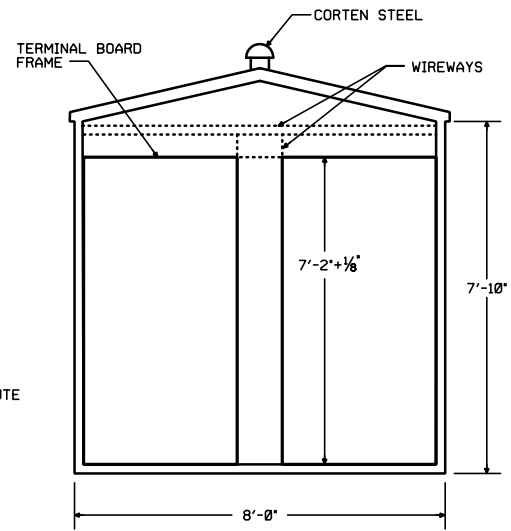
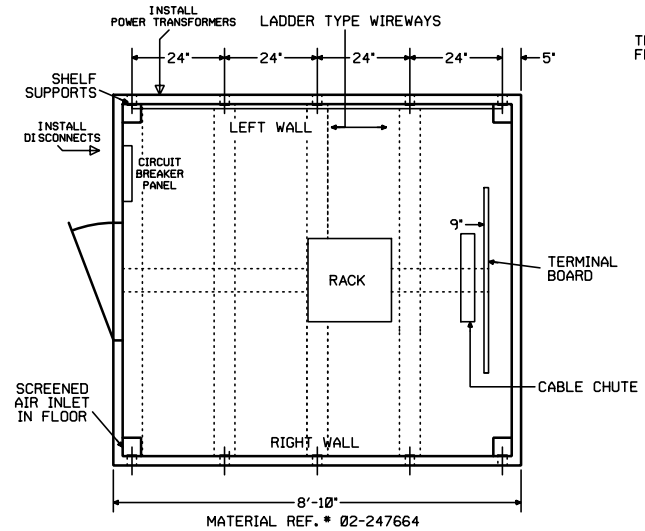
8' x 8' APPARATUS ENCLOSURE

RELAY ENERGY LOOPS  
(REAR)



RELAYS

A62-195 = 02-411526 B1, FLASHER 4FB-HD  
A62-205 = 02-411682 B1, 2FB, 2B-HD, 210n  
A62-262 = 02-395406 B1N, 6FB, 500n  
A62-353 = 02-411609 B1SR (3 SEC.), 2FB, 460n  
A62-407 = 02-411542 B1-PT, 6FB-HD, 100n/100n

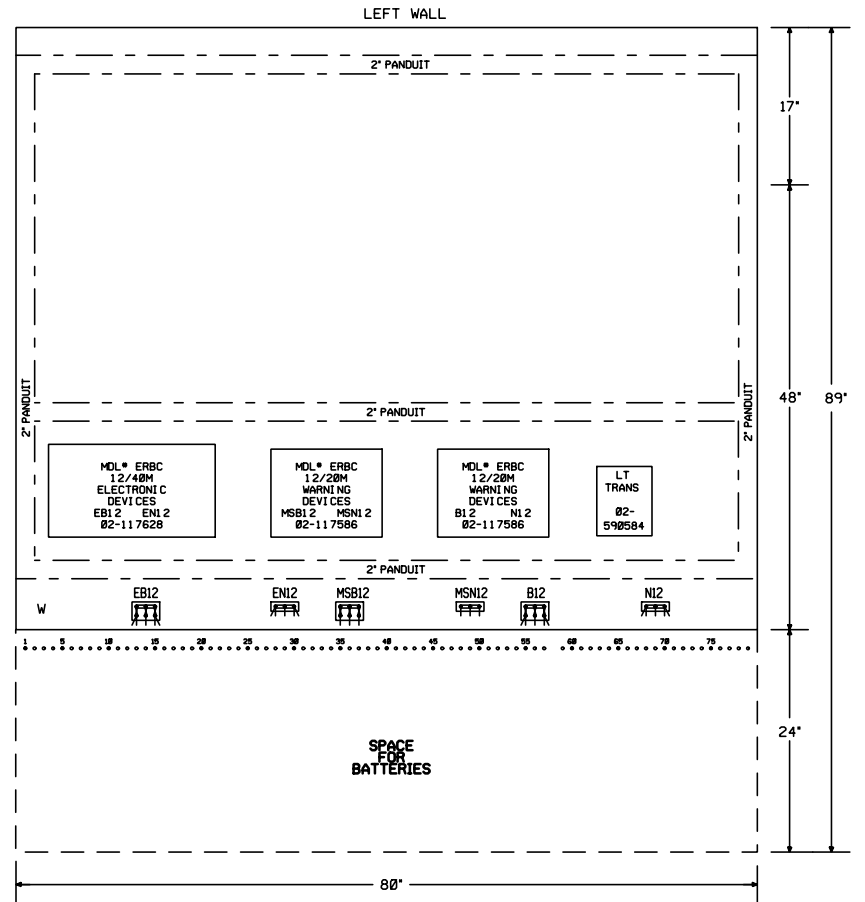
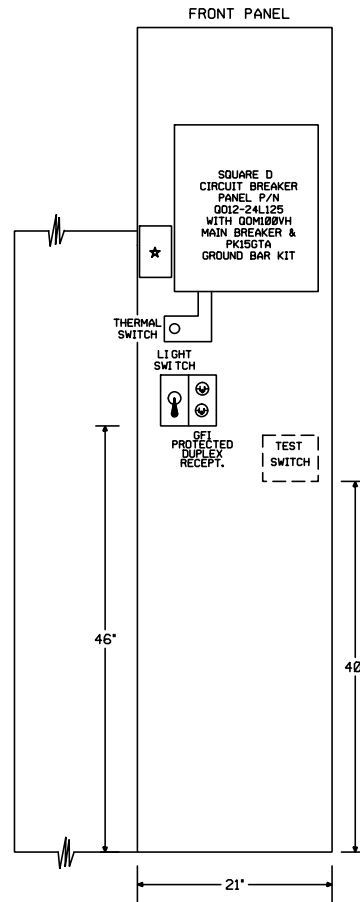
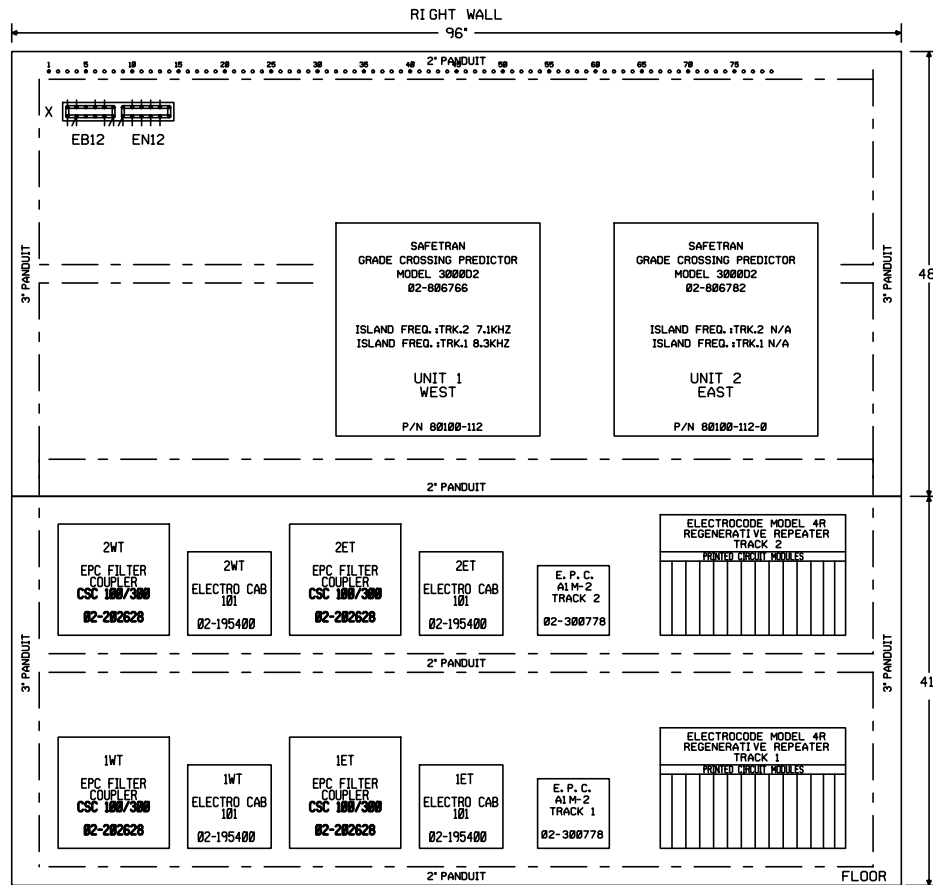


HINES HILL ROAD/REP 99.7 HIGHLAND SPRINGS, OHIO

RELAY RACK, ENERGY LOOPS, FUNCTIONS  
AND 8' X 8' APPARATUS ENCLOSURE  
LAYOUT

ISSUE DATE: NOVEMBER 30, 1998	2412-0997
REV. 3	05-23-22
SHEET 12	11

!! WALLS VIEW FROM (INSIDE) REAR OF APPARATUS ENCLOSURE !!



★  
JOSLYN  
SURGE  
SUPPRESSOR  
\*1265-41  
OR  
ERICO  
EPD 120/240  
02-375705  
SUPPRESSOR TO BE LOCATED  
AS CLOSE AS POSSIBLE TO  
BREAKER BOX. LEADS TO BE  
TWISTED WHENEVER POSSIBLE.

PROJECT:  
#10.2159  
RED = IN  
YELLOW = OUT  
DESIGN: 03-24-22  
PROGRESS RAIL  
CHECK: 05-23-22  
JMW

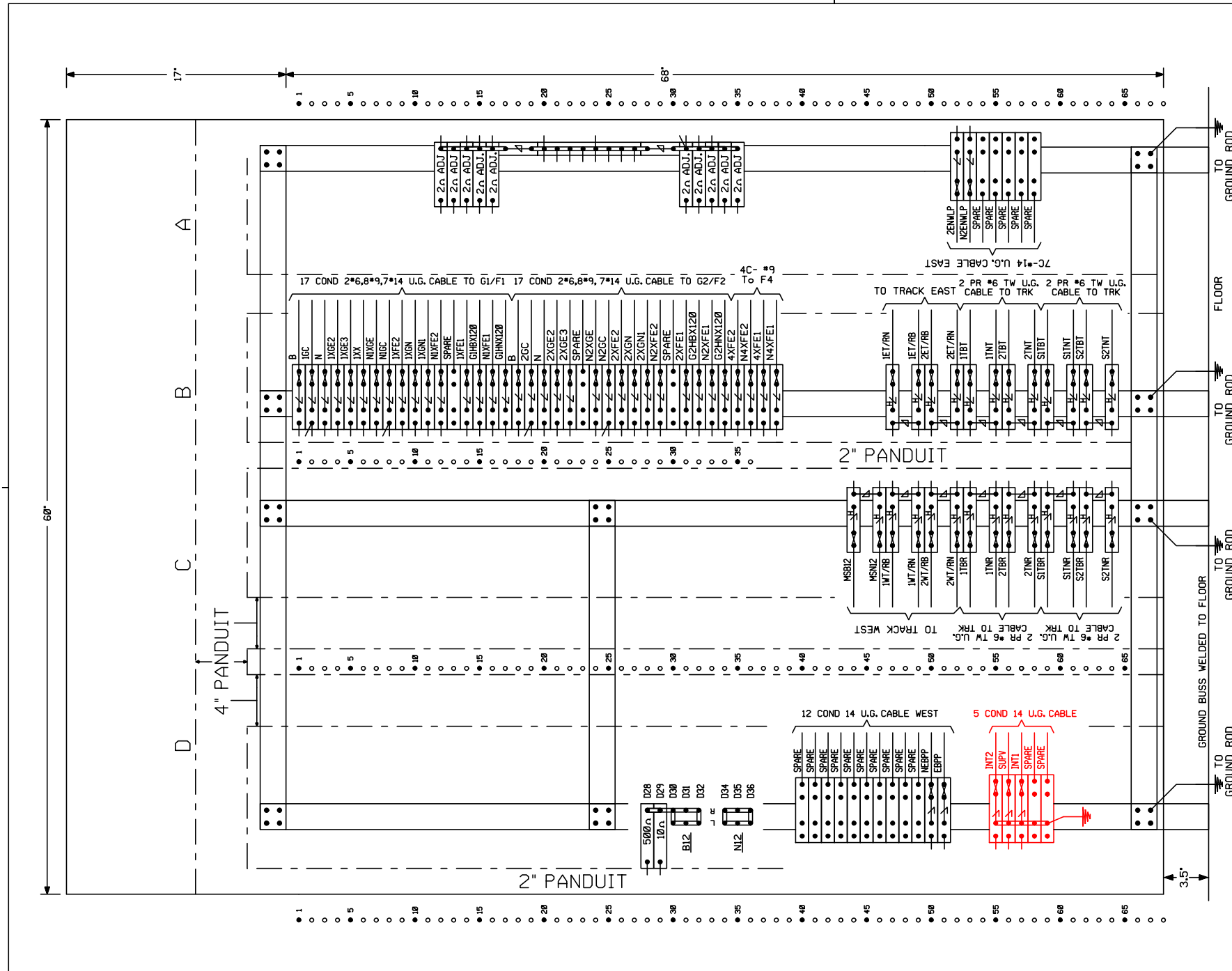


HINES HILL ROAD/REP 99.7 HIGHLAND SPRINGS, OHIO

WALL LAYOUT

ISSUE DATE: NOVEMBER 30, 1998	2412-0997
REV. 3	05-23-22
SHEET 13	12


2 07-15-01



- NOTES:
- 1n FIXED 02-423547 - RESISTOR
  - 1n ADJ. 02-425799 - RESISTOR
  - 2n ADJ. 02-425807 - RESISTOR
  - 5n ADJ. 02-422754 - RESISTOR
  - 10n FIXED SAFETRAN 029245-3X - RESISTOR
  - 22n FIXED 02-425849 - RESISTOR
  - 100n FIXED 02-423646 - RESISTOR
  - 500n FIXED 02-423711 - RESISTOR
  - 02-036133- 4 POST PORCELAIN BASE
  - 02-037057 - 3 POST PORCELAIN BASE
  - 02-050753 - TERMINAL BLOCK FOR EQUALIZER
  - 02-048757 - TERMINAL STRIP
  - 02-150009 - BUSS LINK
  - 02-286662 - TEST LINK ASSEMBLY
  - 02-025920 - ARRESTER, HEAVY DUTY, WITH BASE
  - 02-026613 - ARRESTER, HEAVY DUTY, WITHOUT BASE
  - 02-025565 - ARRESTER
  - 02-197950 - EQUALIZER

GROUND CONNECTION TO BE IN ACCORDANCE WITH STANDARD PLAN CS-9001-A

PROJECT:  
#10.2159  
RED = IN  
YELLOW = OUT  
DESIGN: 03-24-22  
PROGRESS RAIL  
CHECK: 05-23-22  
JMW



HINES HILL ROAD/REP 99.7      HIGHLAND SPRINGS, OHIO

TERMINAL BOARD ARRANGEMENT

ISSUE DATE: NOVEMBER 30, 1998		2412-0997	
REV. 3	05-23-22	SHEET 14	13

2      07-15-01

**Detailed Estimate for Grade Crossing Warning Devices**

City/State: HUDSON, OH

Road: HINES HILL RD

MilePost: RD-99.7

DOT/AAR: 503034K

State Proj. No.: PID 116116

County: SUMMIT

S&amp;E Proj. No.: 10.2159

File Number:

Man Days: 24

<b>***Purchases - Others***</b>		
Meals and Lodging:	\$3,598.91	
Rental of Equipment:	\$4,919.69	
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 4 Days)		
Construction Supervision Vehicle:	\$752.55	
Purchases - Other Total:		\$9,271.15
<b>***Material And Additives***</b>		
Material Cost:	\$8,167.00	
Sales and Use Tax:	\$653.00	
Material Handling Freight:	\$816.75	
Material Total:		\$9,636.75
<b>***Labor And Additives***</b>		
Labor Cost:	\$8,472.00	
(6 man crew at \$2,118.00 a day for: 4 days)		
Payroll Tax & Overheads:	\$7,223.23	
Preliminary Engineering:	\$1,747.14	
Construction Supervision:	\$2,474.67	
Labor Total:		\$19,917.04
	Project Cost:	\$38,824.94
	Scrap / Salvage Credit:	\$0.00
	<b>Project Total:</b>	<b>\$38,825.00</b>

Estimated on: 23-May-22

Estimated by: wgtg9

**Estimate valid for 1 year from date of estimate**



Highway Crossing Signalization Program - Material List

Do not substitute items without permission from S & E Engineering

City:	HUDSON
Road:	HINES HILL RD
Mile Post:	RD-99.7
Drawing Number:	24120997
State ProjectNumber:	PID 116116
County:	SUMMIT
A A R Number:	503034K
Project Number:	10.2159
File Number:	
New File Number:	CX1114630
WBS:	F-07904
Store Number:	
Supervisor:	A.R. ETHERTON
Tax Code:	
Vendor to supply the following copies after pricing:  1 Set - Material Management with original Invoice 2 Sets - with plans shipped in car with material 1 Set - S&E Gen. Supt. Construction w/copy of invoice	



Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
3	670-119241-4	EA	\$27.06	\$81.18	ARRESTOR, LIGHTNING HEAVY DUTY CLEAR VIEW SAFETRA 022585-1X		Date Quan.	Date Quan.	Date Quan.		
150	465-292945-4	LF	\$1.59	\$238.50	CABLE, UG 5-14, S-54 OKONITE 206-14-6885						
3	670-440826-4	EA	\$1.18	\$3.54	LINK, SAFETRA 024620-1X INSL TESTING COMP 1 IN CENTER SIGNAL CIRCUITS CR 02-286662						
1	000-777777-4	EA	\$6,500.00	\$6,500.00	MISC. EXPENSE ENGINEERING						
1	610-719870-4	EA	\$167.75	\$167.75	PEDESTAL ASSEMBLY, ARMORCAST P/N P6001205-NS, YELLOW 10"X11"X29" POLYETHYLENE INCL 45" WITH TERMINAL BLOCK						
1	670-259211-4	EA	\$62.85	\$62.85	PLUG BOARD KIT, TYPE B-1 & VOLTAGE TEST TERMINAL, SAFETRA 420000-75X						
1	670-707995-4	EA	\$557.26	\$557.26	RELAY, TYPE B1, NEV LINE, 900 OHMS,.008 AMPERES GRS A62- 308 OR SAFETRA @400003						
5	670-489810-4	EA	\$71.88	\$359.40	TERMINAL BLOCK, ERICO 4 POST P/N B2700A2C1WHAKIT WITH HARDWARE AND 1 EACH SAFETRA P/N 022485-28X						
1	670-007238-4	EA	\$175.99	\$175.99	UNIT, THE INSTALLATION AND WIRING OF A DEVICE WHICH REQUIRE A MINIMUM OF FOUR WIRE CONNECT-						
100	465-458198-4	FT	\$0.21	\$21.00	WIRE, NO.16, 1 CONDUCTOR, CASE, FLEXIBLE, 19 STRAND, 2/64 IN. INSULATION						

Total Material: \$8,167.47

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
-------------------	----------------------	------------	-------------



## Rail Development Commission

Mike DeWine, Governor  
Jon Husted, Lt. Governor

Scott Corbitt, Chair

March 21, 2022

Mr. Kurt Young  
Norfolk Southern  
Administrator Grade Crossing Program  
1200 Peachtree Street NE, Box 123  
Atlanta, Ga. 30324

RE: Grade Crossing Warning Device Improvements  
Summit County, Hines Hill Rd, DOT# 503-034K, PID# 116116.

Dear Mr. Young:

A diagnostic review was held at the above grade crossing on August 17, 2021. As a result of the review, an interconnection cable and junction box shall be installed at the edge of Norfolk Southern Right of Way (SW quadrant) for the City of Hudson to access.

Norfolk Southern (NS) is authorized to proceed with the site plans and cost estimates (PE) 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.

The diagnostic review form is attached. Please note any recommendations (page 7), if any, made by the team regarding 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](mailto: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  
ORDC (file)





## Rail Development Commission

Mike DeWine, Governor  
Jon Husted, Lt. Governor

Scott Corbitt, Chair

January 24, 2022

Kurt Young  
Norfolk Southern Corporation  
650 West Peachtree Street, NW Box 41  
Atlanta, GA 30308

Subject: Grade Crossing Warning Device Improvements, PID 116116  
Summit County, Hines Hill Road, DOT# 503034K

Dear Mr. Young:

A diagnostic review was conducted at the subject grade crossings on 8/17/2021. Based on the review, an interconnection cable will be provided per the recommendations of the diagnostic review team.

This project shall be completed in compliance with Agreement No. 17450, dated December 19, 2012, entered into by the State of Ohio and Norfolk Southern Railway Company (NS) and incorporated as if fully rewritten herein. This construction shall also meet the general terms and conditions under the Fixing America's Surface Transportation Act and subsequent amendments and the State of Ohio's Federally Funded Warning Device Program.

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

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

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



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

Sincerely,



Matthew Dietrich  
Executive Director

Norfolk Southern:

By: T. Williams

Title: VP ATC

Date: 2/11/2022

SUM Hines Hill Rd NS PID 116116 DOT 503034K

Hines Hill Road (DOT #503034K), City of Hudson, Summit County, Norfolk Southern  
8/17/2021

Crossing at a glance:

ORDC Notes:

Please Sign In

James Tucker

ORDC

Name	Title	Organization
	614-398-6897	james.tucker@dot.ohio.gov
Phone Number	Email	Signature

Shawn Zurfley

PUCO

Name	Title	Organization
Phone Number	Email	Signature

Will Ersing

NS

Name	Title	Organization
Phone Number	Email	Signature

Thomas Sheridan

Hudson

Name	Title	Organization
Phone Number	Email	Signature

Dave Griffith

Hudson

Name	Title	Organization
Phone Number	Email	Signature

Frank Comeriato

Hudson

Name	Title	Organization
Phone Number	Email	Signature

JONATHAN STROG

Hudson

Name	Title	Organization
Phone Number	Email	Signature

Name	Title	Organization
Phone Number	Email	Signature

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

Date: 8/17/2021

Location Data		
Street or Road Name: <b>Hines Hill Road</b>		
County: <b>Summit</b>	Township:	US DOT No.: <b>503034K</b>
City (in or near): <b>Hudson</b>	Railroad Name: <b>NS</b>	RR Milepost:
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: <b>364</b>	Date Run: <b>08/05/2021</b>	

Existing Traffic Control Devices		
Type of Warning Devices	Installed?	Quantity/Comments
<b>HIGHWAY</b>		
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2 - WB Blocked by Veg.
'Stop' Signs	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
'Stop Ahead' Signs	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pavement Markings (condition?)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2 - Good
Dynamic Envelope Markings (condition?)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Illumination	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1
'No Turn' Signs (highway/passive)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Barriers/fencing (pedestrian/bicycle)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
LOOK Sign	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Do Not Stop On Track Sign	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>RAILROAD</b>		
Crossbucks	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3 - fair
Crossbucks – assembly with Stop	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Crossbucks – assembly with Yield	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4 - Pair
Cantilever Flashing Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Number: 2 - Pair Length:
Side Lights	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12" + 8" Incandescent
LED or Incandescent Lights? Size?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12" + 8" Incandescent
Automatic Gates	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Number: 2 Length:
Bells	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Number: 1
Sidewalk/Pedestrian Gate Arms	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number: Length:
'No Turn' Signs (railroad/active)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>OTHER</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Railroad Data		
Type of Train: <input checked="" type="checkbox"/> Freight <input type="checkbox"/> Intercity Passenger <input type="checkbox"/> Transit <input type="checkbox"/> Shared Use Transit <input type="checkbox"/> Commuter <input type="checkbox"/> Tourist/Other		
Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	62	
<1 per day? Trains per week		
Day thru trains	30	
Night thru trains	30	
Switching	2	
Total number of tracks	2	
Number of main tracks	2	
Number of other tracks		
Maximum train speed	50	
Typical train speed	50	
Amtrak		
Are there other track(s) crossing this same roadway within 100ft of this crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Can one train block the motorists' view of another train at the crossing? <input checked="" type="checkbox"/> Yes (explain below) <input type="checkbox"/> No		
Can one or more tracks be eliminated through the crossings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Comments:		
Circuitry: <input type="checkbox"/> Constant Warning Time <input type="checkbox"/> Motion Detection <input type="checkbox"/> AFO <input type="checkbox"/> PTC <input type="checkbox"/> DC <input type="checkbox"/> Other _____		

Unknown circuitry as the railroad was not present

Roadway Data		
Local Highway Authority:		City of Hudson
Roadway Characteristics	Initial Information (from database)	Revised
Average Daily Traffic	2,380 (2010)	3710 (2019)
Highway Paved	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: <input checked="" type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete    Other: _____		
Roadway width (paved/travelled way): <u>24</u> ft		
Number of Highway Lanes	2	
Urban or Rural	Rural	
Vehicle Speed: <u>35</u> MPH		
School Bus Operation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    Amount <u>?</u> LHA to provide update		
Location of nearby schools: <u>Western Reserve Academy = 1 mile SE</u>		
Hazardous Materials Trucks: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Amount (from FRA) <u>2%</u> LHA verified/changed?		
Shoulders: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Is the Shoulder Surfaced? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    If yes, shoulder width: <u>2</u> ft.		
Is there existing guardrail along the roadway in crossing vicinity? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Crossing Angle <input type="checkbox"/> 0-29° <input type="checkbox"/> 30-59° <input checked="" type="checkbox"/> 60-90°    Measured in _____ Quadrant?		
Quadrant <u>NE</u> Curb & Gutter:	Quadrant <u>SW</u> Curb & Gutter:	
<input type="checkbox"/> Functional (Curb height = 4" or more)	<input type="checkbox"/> Functional (Curb height = 4" or more)	
<input type="checkbox"/> Non-functional (Curb height = less than 4")	<input type="checkbox"/> Non-functional (Curb height = less than 4")	
<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> None	
Is there a nearby intersection that could cause queuing over the crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, distance _____		
Is this intersection signalized? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Are there signals currently interconnected with the existing crossing warning devices? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Is there a 'Do Not Stop on Track' sign? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is a roadway improvement project (e.g. widening, turn lanes, nearby new or upgraded traffic signal, sidewalk) planned at or near this location in the foreseeable future? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes:		
Improvement type _____ Lead Agency _____ Timeline/completion _____		



### Pedestrian & Bicycle Data

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

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

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: maple Grove 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: veterans trail phase 1 = scheduled 2024

### Utility Information

Is commercial power available? ☒ Yes ☐ No

Utility Provider (Company Name) City of Hudson Public Power

Nearest Available Power Source @ crossing

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

Comments:

### Surface

Surface review form completed? ☐ Yes ☒ No

### Sight Preview (REFER TO TABLES)

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

Is stopping sight distance adequate? (See Table 2) ☒ Yes ☐ No If no, which quadrant? 280

When considering recommendations for bicycle treatments:

Bicycle sight distance adequate? ☒ Yes ☐ No If no, which quadrant? 580

When considering recommendations for pedestrian treatments:

Pedestrian sight distance adequate? ☒ Yes ☐ No If no, which quadrant? 890

## 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:

N/A

Roadway and/or Sidewalks:

N/A

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

unknown = RR was not present

Environmental:

City performed a wetland survey recently

Utilities:

unknown

Other:

## Potential Closure

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

Explain reasons:

**Very Busy Road with direct access to SR-8**

## Diagnostic Team Recommendations

☐ No improvements needed

Quadrants Needed

☐ Install/upgrade active devices

☐ Automatic Flashing Lights (AFLS)

☐ AFLS / Cants

☐ AFLS / Gates

☐ AFLS / Gates / Cants

☐ Bells / number

☐ Upgrade circuitry / type

☐ Sidelights

☐ LED Upgrades

☐ Guardrail Needed

☐ Install/Replace curb

☐ Bungalow placement & offset from rail & highway

☒ Other (define)

Comments: **The city request that NS supply a Junction Box with dry contacts for them to connect to for their planned Blank out signs @ prospect and Walters Streets.**

☐ Install/upgrade traffic signal preemption

Other (define): **The city would like the Junction Box to be set behind the existing Bungalow (NW Quad) NS suggest using radar circuitry**

**instead of RR interconnect**

## 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 <sup>1</sup>	Bicyclist <sup>2</sup>	Pedestrian <sup>1</sup>	Bicyclist <sup>2</sup>	Pedestrian <sup>1</sup>	Bicyclist <sup>2</sup>
10	105	185	200	225	240	120	100	180	120	240	140
20	205	365	400	450	485	240	200	360	240	480	270
25	255	455	500	560	605	300	250	450	290	590	340
30	310	550	600	675	725	360	290	530	350	710	410
40	410	730	795	895	965	480	390	710	470	950	540
(50)	515	910	995	1,120	1,205	590	490	(890)	(580)	1180	670
60	615	1,095	1,195	1,345	1,445	710	580	1060	700	1420	810
70	715	1,275	1,395	1,570	1,680	830	680	1240	810	1650	940
80	820	1,460	1,590	1,790	1,925	950	780	1420	930	1890	1080
90	920	1,640	1,790	2,015	2,165	1060	870	1590	1040	2120	1210

\*A single track, 90-degree, level crossing

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

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



# AMATS Average Daily Traffic

Akron Metropolitan Area Transportation Study



AMATS Count Number

**Last Count Average Daily Traffic: 3,710****AMATS Count Location Number: 5,520****Route:****Name of Roadway:** Hines Hill Rd**Where on Roadway:** between Walters & Prospect**County:** SUM**City or Township:** Hudson**Typically Counted By:** AMATS**Current Functional Classification:** 5**Last Count Year:** 2019**Last Count Average Daily Traffic:** 3,710[Zoom to](#)

0.2mi



Hudson, OH



*Disclaimer: Map and parcel data are believed to be accurate, but accuracy is not guaranteed. This is not a legal document and should not be substituted for a title search, appraisal, survey, or for zoning verification.*

Map Scale  
1 inch = 63 feet  
8/17/2021



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

**6/15/2022 10:14:20 AM**

**in**

**Case No(s). 22-0595-RR-FED**

Summary: Application In the Matter of a Request for the Upgrade of the Active Warning Devices at the Norfolk Southern Railway Crossing, Hines Hill Road, DOT#503-034K, Summit County, Ohio electronically filed by Mr. Thomas Persinger on behalf of PUCO/Rail Division