

Memo

To: Docketing Division
From: Jill Henry, Rail Specialist, Rail Division
Cc: PUCO Legal Department
Date: November 29, 2017

Re: PUCO Case No. 17-2305-RR-FED- In the Matter of a Request for Installation of Active Warning Devices at Kanawha River Railroad Grade Crossing, DOT#513-448N , on TR 185 in Perry County, Ohio.

On August 24, 2015, the Ohio Rail Development Commission (ORDC) authorized funding for Norfolk Southern Railway (NS) to install active warning devices at the TR 185, DOT#513-448N, grade crossing in Perry County, Ohio. The crossing was initially surveyed on April 20, 2015 and was found to warrant the upgrade. The Commission approved this project in Case#15-1494-RR-FED and ordered completion of the project by June 30, 2016.

In March 2016, NS shut down service on the line and, in June 2016, leased the line to Kanawha River Railroad (KNWA). ORDC worked with NS and KNWA to determine if a project should move forward. A second field review was conducted, on April 26, 2017, and it was determined that a project should move forward. NS agreed to provide the plans since the design was already completed and KNWA used the plans to develop the estimates.

On July 25, 2017, the Ohio Rail Development Commission (ORDC) authorized funding for KNWA to install lights and gates at the TR 185, DOT#513-448N, grade crossing in Perry County, Ohio. The electric utility provider for this crossing is South Central Power Company.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$228,243.00 have been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in 12 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:

Kanawha River Railroad
 Anthony Cox
 Vice-President of Engineering
 Watco Transportation Services, LLC
 315 W. 3rd Street
 Pittsburg, KS 66762

Norfolk Southern Railway Company
 Stephen Klinger
 Public Projects Engineer
 1200 Peachtree Street NE
 Atlanta, GA 30309-3597

Eastman & Smith LTD.
 Mr. Casey Talbott
 Attorney for Norfolk Southern
 One SeaGate 24th Floor
 P.O. Box 10032
 Toledo, Ohio 43699-0032

Ohio Rail Development Commission
 Cathy Stout
 1980 West Broad Street
 Mail Stop #3140
 Columbus, OH 43223

Jackson Township, Perry County
 Trustees
 1505 State Route 668 S
 Junction City, OH 43748

South Central Power Company
 P.O. Box 250
 Lancaster, OH 43130

INTER-OFFICE COMMUNICATION

TO: Randall Schumacher, Supervisor, Rail Division, PUCO
FROM: Cathy Stout, Manager, Safety Section, ORDC
BY: Eric Neff, Safety Manager, Safety Section, ORDC
SUBJECT: Perry County, TR185, DOT 513448N, PID# 106301
DATE: October 30, 2017

The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on April 16, 2017. The Public Utilities Commission of Ohio (PUCO) attended the review. The Diagnostic Team recommended the improvement of warning devices to flashing lights and roadway gates. Copies of the diagnostic review form and the plan and estimate are attached.

PE has already been provided by the railroad. ORDC accepts the site plans and estimates as provided. Please issue a construction-only order for the project outlined above. 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

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



OHIO RAIL DEVELOPMENT COMMISSION

Mail Stop #3140, 1980 West Broad Street, Columbus OH 43223

John R. Kasich, Governor • Mark Policinski, ORDC Chairman

October 30, 2017

Kanawha River Railroad
Mr. Anthony Cox
VP of Engineering
Watco Transportation Services L.L.C
315 W. 3rd Street
Pittsburg, KS 66762

RE: Perry County, TR185, DOT 513448N, PID# 106301

The plans developed by Norfolk Southern Railroad, and estimate provided by the Kanawha River Railroad, for the referenced project are acceptable. The Kanawha River Railroad may proceed with the construction of the proposed grade crossing warning systems in accordance with the abbreviated plans. Construction may include but is not limited to associated railroad track, curb and sidewalk construction circuitry design, installation of service poles, procurement of materials and signal construction. Please note ODOT Railroad Audit Circular No.4 Subcontracted Costs for Railroads and accordingly provide ORDC with any relevant bid documents and bid tabs pertaining to this project. 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 costs are limited to the following:

- \$228,243.00 Perry County, TR185, DOT 513448N, PID# 106301

and will be adjusted based on bid tabulations if applicable. 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 the Kanawha River Railroad accepting the following instructions:

1. The Kanawha River Railroad's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Eric Neff, ORDC, email: eric.neff@dot.ohio.gov and to Jill Henry the Public Utilities Commission of Ohio at email: 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. The Kanawha River Railroad 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



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

site. Utilities that are not participating members of the service must be contacted directly by the Kanawha River Railroad.

3. The Kanawha River Railroad's project foremen will notify Eric Neff at 614-745-6760 (telephone) or eric.neff@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. The Kanawha River Railroad will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.
6. The Kanawha River Railroad 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,

Eric Neff

Eric Neff
Project Manager

C: Randall Schumacher, Rail Division Supervisor, PUCO
Jill Henry, Rail Division Specialist, PUCO
Susan Arduini, ORDC
ORDC (file)

ESTIMATE

C.D.L. ELECTRIC COMPANY

Railroad Signal Installations & Maintenance

1308 N Walnut Street, Pittsburg KS, 66762

PHONE: (620) 231-6420

FAX: (620) 231-6421

PROPOSAL SUBMITTED TO: Kanawha River RR (KNWA)	PHONE: (681) 587-1431	DATE: October 2, 2017
STREET: 1100 Dairy Lane	JOB NAME: TR 185, Perry County, OH (513 448 N)	
CITY, STATE and ZIP CODE: Belle, WV 25015	JOB NUMBER: RRP-523R	

We hereby submit specifications and a detailed estimate for:

RRP-523R, TR 185 (Clay Rd.), Perry County, OH (513 448 N)

C.D.L. Electric, Incorporated is providing an estimate to furnish and install a new automatic railroad/highway grade crossing warning signal system at the location listed above. It will include a new pre-wired grade crossing control shelter with prediction type circuitry and flashing light / gate signal assemblies. The signal system will include items listed on the accompanying estimated material list. The automatic warning system we propose is based on the circuit plans previously prepared by Norfolk Southern Railway Company for this location, identified as drawing No. 81240419 (Checked 08/07/15).

The new signal assemblies will include automatic gates with 2-Way 12" LED flashing light units and signs. One signal assembly will include a bell. Underground signal cable, foundations and grounding components will be included as well. New conduits will be furnished under the road and track as required. The new signal system will require commercial AC power and a new meter service will be provided. Guardrail for each signal assembly has not been included in this proposal. However, it is noted that one signal assembly will require the use of a retaining wall. After the installation of the described signal system is complete, dress stone and grass seed will be placed, as needed, to properly finish the installation.

Please Note: Commercial power (220V) must be readily available within 75' of the control shelter location. Any additional cost(s) associated with labor or material(s) to get 220 volt commercial power to the proposed AC meter service location is not included in this estimate and will be the responsibility of others at their expense.

Any overhead or underground utilities that may interfere with the installation or proper operation of the described signal system must be relocated at the expense of others. C.D.L. Electric, Inc. will not be responsible for any cost(s) associated with labor or material(s) required to relocate utilities at this location.

If concrete, asphalt or any other type of roadway/walkway material must be removed for the proper installation and operation of the described signal system then additional charges may apply. C.D.L. Electric, Incorporated will not be responsible for any cost(s) associated with labor or material(s) to replace concrete, asphalt or any other type of roadway/walkway material removed during the installation process of the described signal material.

Please Note: The estimated price is valid for ninety (90) days from the date listed above. Beyond ninety days the price is subject to change.

We propose hereby, to furnish material and labor – complete in accordance with above specifications, for the Sum of: \$228,243.00. Please note, an estimated 6.75% Sales Tax is applied to material and labor only.

Two Hundred Twenty-Eight Thousand, Two Hundred Forty-Three Dollars and no/100 (\$228,243.00)

Continued on next page

ESTIMATE

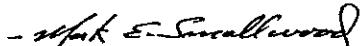
RRP-523R, TR 185 (Clay Rd.), Perry County, OH (513 448 N) - continued

Material – (see items listed), AC Meter Service, and Handling Charges:	\$ 148,475.00
Labor - Crew Mobilization, Crew Install, Office support, Project Mgmt.:	\$50,976.00
Equip. – Truck(s) with Trailer(s) (w/fuel), XT type, Bore Equip., General Tool Use:	\$15,330.00
 Total Selling Price:	 <u>\$214,780.00</u>
 Estimated Sales Tax (Estimated 6.75% on Material & Labor):	 \$13,463.00
 Grand Total (Including Estimated Sales Tax):	 <u>\$228,243.00</u>

Please Note the following:

- (1) Terms: Net Due 30 Days from Invoice Date
- (2) This proposal may be withdrawn by us if not accepted within Ninety (90) days.

Authorized Signature:



All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements are contingent upon strikes, accidents or delays beyond our control. Owner will carry fire, tornado and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

Acceptance of Estimate — the above price, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance: _____

Signature: _____

Signature: _____

ESTIMATE

RRP-523R, TR 185 (Clay Rd.), Perry County, OH (513 448 N) - continued

Material to be provided per this proposal includes:

<u>ITEM DESCRIPTION</u>	<u>QTY.</u>	<u>U/M</u>
CONTROL SHELTER, POWDER COATED 6 X 8 NS STD. w/ ACCESSORIES	1	EA
WIRED COMPLETE AND TESTED PER NS DWG.81240419 (CHKD. 08-07-15) INCLUDES:		
TRAIN DETECTION DEVICE (PREDICTOR) MGCP SGL. TRACK REDUNDANT	1	EA
SURGE PROTECTOR 120/240	1	EA
CHARGER, BATTERY REC, 40 AMP	2	EA
VHF COMMUNICATOR PKG	1	EA
PROTECTOR, BATTERY LPC	1	EA
PROTECTOR, LINE, LPC	1	EA
LIGHTNING	2	EA
BLOCK, ERICO 4-POST	40	EA
ARRESTER, CLEARVIEW	29	EA
EQUALIZER	6	EA
WIRING COMPONENTS - NON VITAL	1	LT
POWER-OFF LIGHT, GEM	1	EA
WIRE HARNESS, NS	1	EA
STICKER, LOCATION/CONTACT INFORMATION	1	EA
SHOP WIRING HDW., WIRE, TERM. EYES, TAGS, ETC.	1	LT
SERVICES, SHOP WIRING & TESTING SERVICES	1	LT
GATE ASSEMBLY, S-60 TYPE COMPLETE WITH THE FOLLOWING ITEMS:	2	EA
MAST & JUNCTION BOX ASSEMBLY, w/WIRING HARNESS		
2-WAY LIGHT ASSY., 12" LED COMPLETE WITH HOODS AND BGS		
COUNTERWEIGHT PKG.		
SIGN, "RAILROAD CROSSING"		
HARDWARE PKG		
GATE ARM, HI STRIPING, RED/WHITE ALTERNATING, (ADJ)		
LIGHT KIT FOR GATE ARM 4" LED		
HIGH WIND BRACKET		
GATESAVER, SWING-A-WAY GATE ARM DEVICE - NEG		
BELL, ELECTRONIC 12V TYPE FOR 4"/5" MTG.	1	EA
PINNACLE, 5"	1	EA
BATTERY, 340 A.H. SAFT	20	CL
FOUNDATION, PRECAST CONCRETE	2	EA
SHUNT PLATE	3	EA
SHUNT, NARROW BAND, ADJ.	3	EA
GROUND KIT FOR HOUSE	1	EA
KIT, FAR RAIL	2	EA
KIT, NEAR RAIL	2	EA

Continued on next page

ESTIMATE

RRP-523R, TR 185 (Clay Rd.), Perry County, OH (513 448 N) - continued

CABLE, U.G. SIGNAL 12 COND. NO. 14 AWG SOLID	300	FT
CABLE, U.G. SIGNAL 5 COND. NO. 6 AWG SOLID	300	FT
TRACK WIRE NO. 6 TW. PR. DUPLEX	300	FT
CABLE, U.G. SIGNAL 3 COND. NO. 6 AWG SOLID	300	FT
CABLE REEL	4	EA
PADLOCK, BRONZE W/O CHAIN	1	EA
PADLOCK, HEX TYPE	2	EA
LOCK, RR STD. - WATCO	2	EA
SIGN KIT, ENS	2	EA
RETAIN WALL, GALV. STEEL/ALUM SECTIONAL TYPE	20	FT
MISC. MATERIAL FOR FIELD INSTALLATION	1	LT
AC METER SERVICE (Estimated)	1	LT
CONDUIT (Estimated)	1	LT
ROCK (Estimated)	1	LT
FILL (Estimated)	1	LT
ENGINEERING SERVICES / CIRCUIT PLANS / AS-IN-SERVICE PLANS / P.E. CERT.	1	LT
FREIGHT SERVICES TO JOB SITE	1	LT

MATERIAL ITEMS MAY BE SUBSTITUTED WITH EQUIVALENT TYPE COMPONENTS AS REQUIRED IF NECESSARY

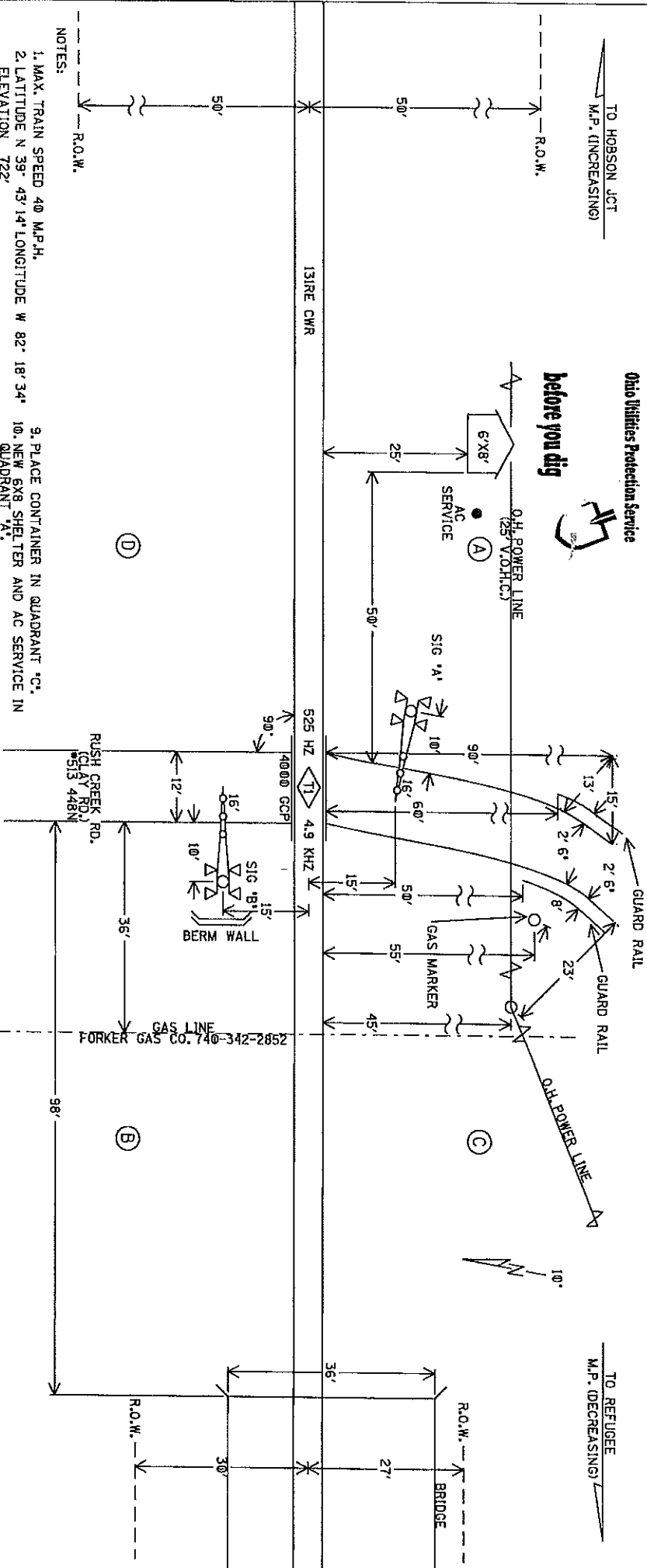
Ohio Utilities Protection Service

before you dig



TO HOBSON JCT
M.P. (INCREASING)

TO REFUGEE
M.P. (DECREASING)



NOTES:

1. MAX. TRAIN SPEED 40 M.P.H.
2. LATITUDE N 39° 43' 14" LONGITUDE W 82° 18' 34" ELEVATION 722'
3. SIGNAL 'A' TO HAVE BELL.
4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
5. CROSSING LOCATED IN PERRY COUNTY.
6. NEAREST STREET ADDRESS IS 174 IMP 185
7. NEAREST INTERSECTING STREET IS W. MAIN STREET
8. DISTANCE TO NEAREST INTERSECTING STREET IS 500. FT.
9. PLACE CONTAINER IN QUADRANT 'C'.
10. NEW 6X8 SHELTER AND AC SERVICE IN QUADRANT 'A'.
11. APPROX FILL REQD: SIGNAL 'A' - 10 YARDS SIGNAL 'B' - 25 YARDS, & 2 10' CRIBBING WALLS 6X8 SHELTER - 20 YARDS

IN SERVICE

SIGNED _____ DATE _____

☐ S&E ENGINEERING COPY

☐ CONSTRUCTION OFFICE COPY

☐ RETURN TO S&E ENG. AFTER COMPLETION

☐ FIELD COPY

☐ PROJECT ENGINEER COPY

REVISION	INITIALS	PROPERTY
		NORFOLK SOUTHERN RAILWAY CO.

DESIGNED BY: KDC 07-31-15	FILE NO. CX111313
DRAWN BY: SII 07-31-15	
CHECKED BY: EWP 08-07-15	
IN SERVICE: -	
CADD OF: WEST VIRGINIA SEC.	
DWG. NO. 812-0019.01	
FILE NO. R-	
SHEET 1 of 22	

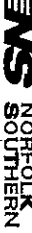
AT/BB/EB 9570

516092 LAYOUT ONLY

8/30/15

SH. NO.	CONTENTS
NXI	INDEX SHEET
1	LAYOUT
2	PROFILE
3	CABLE PLAN
4	LOAD CENTER
5	B12 & B16 CHARGERS & BATTERIES
6	4000 GCP 2-TK CHASSIS & MODULE LAYOUT
7	4000 GCP PROGRAMMING SETUP
8	4000 GCP PROGRAMMING SETUP
9	CONNECTORS FOR TRACK MODULES
10	CPU MODULE, SEAR III & VHF HOOK-UPS
11	SEAR III PROGRAMMING SETUP
12	SSCC#1 MODULE HOOK-UP
13	SSCC#2 MODULE HOOK-UP
14	SIGNAL 'A' S60 GATE & FLASHER CIRCUITS
15	SIGNAL 'B' S60 GATE & FLASHER CIRCUITS
16	BACKBOARD 1A & 1B
17	REAR BACKBOARD 1A & 1B
18	FARADAY SHIELD 1A & 1B
19	FARADAY SHIELD 1C
20	HOUSE SIDE C LAYOUT & RACK PLACEMENT
21	HOUSE SIDE A LAYOUT
22	HOUSE SIDE B LAYOUT & TOP VIEW

INDEX SHEET

DESIGNED BY: KDC 07-31-15	 NORFOLK SOUTHERN	OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA	M.P.	RR-41.99	
DRAWN BY: SII 07-31-15		PLCS AT RUSH CREEK RD. (CLAY RD.)			
CHECKED BY: EMP 08-07-15		WEST VIRGINIA SEC.			
IN SERVICE:		FILE NO. R-	SHEET 1 of 1		
PROPERTY NORFOLK SOUTHERN RAILWAY CO.		Dwg. No. 81240419NXI			

REVISION
INITIALS

TO HOBSON JCT
M.P. (INCREASING)

2058'
TO NEAREST
GCP WIRES

APR. ST.
LOGAN ST.

TO REFUGEE
M.P. (DECREASING)

2058'
TO NEAREST
GCP WIRES

823'

261'

60'

0'

60'

104'

193'

M.P.
RR-42

RUSH CREEK RD.
CLAY RD.
513 448N

FLGS

4000 GCP

525HZ
4.9KHZ

FLGS

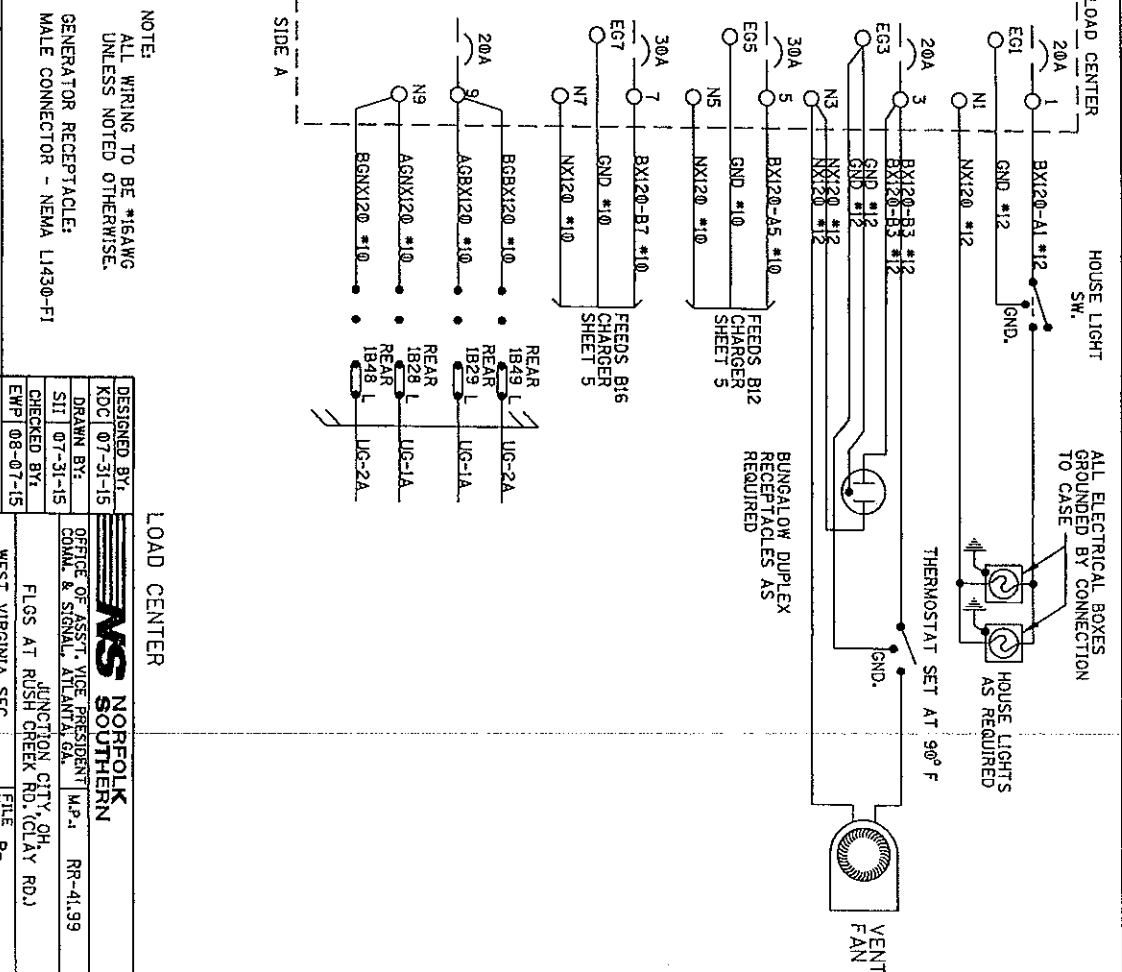
BIG RUSH CREEK

- (A) - MF-NBS 62775-3497 (525HZ)
- (B) - NBS-1 (326HZ)

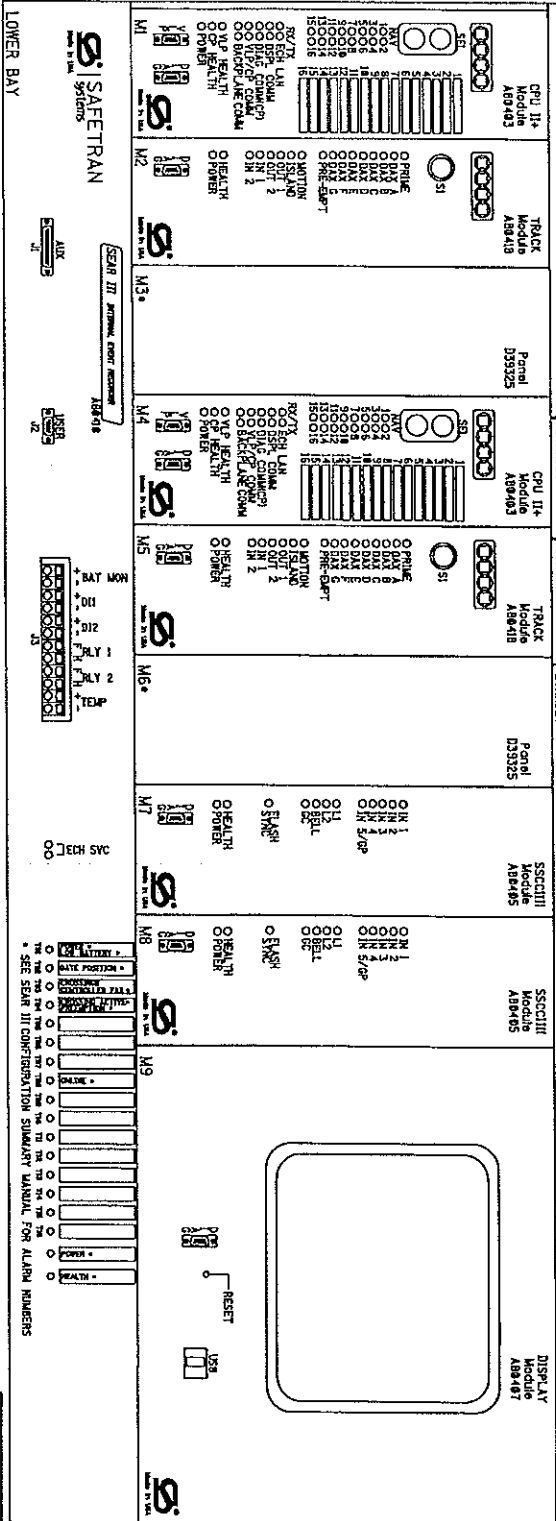
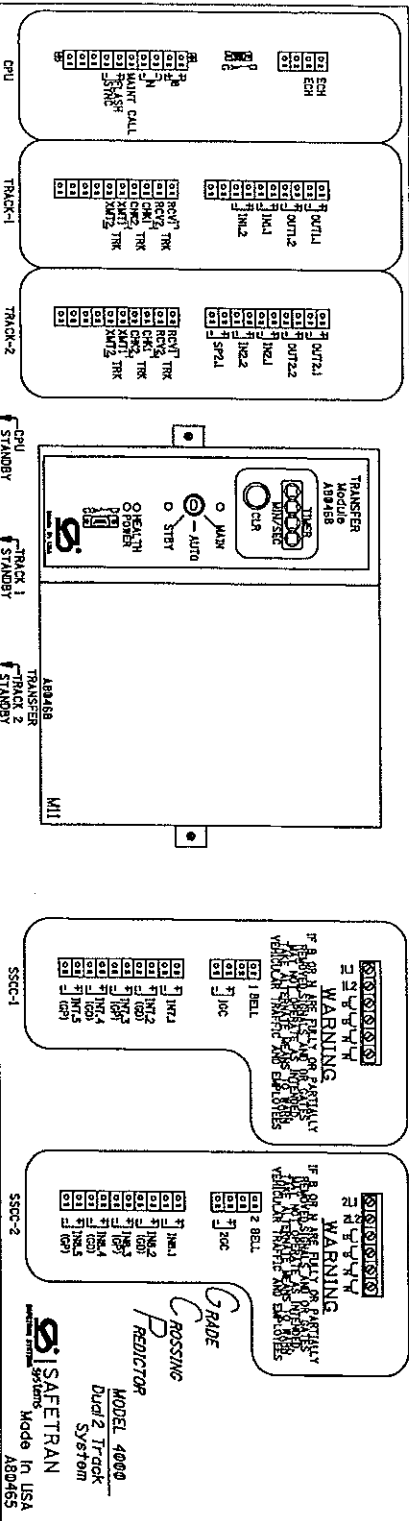
PROFILE

DESIGNED BY:	KDC 07-31-15	OFFICE OF ASST. VICE PRESIDENT	M.P.	RR-41.99
DRAWN BY:	SII 07-31-15	COMM. & SIGNAL, ATLANTA GA.		
CHECKED BY:	EMP 08-07-15	WEST VIRGINIA SEC.	FILE R-	
IN SERVICE:	-			
CADD OF	DRG. NO.	81240419.02	SHEET	2 of 22

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.



PROPERTY	IN SERVICE	22
CARD OF	IN	4 of
DWG. NO.	81240415-04	22
SOUTHERN RAILWAY CO.		
NORFOLK		
REVISION		
INITIALS		



REVISION	INITIALS	PROPERTY	NORFOLK SOUTHERN RAILWAY CO.
DESIGNED BY:		KDC 07-31-15	
DRAWN BY:		SII 07-31-15	
CHECKED BY:		EMP 08-07-15	
IN SERVICE:		-	
CAD OR		81240419.06	
SHEET		6 of 22	
<p>NORFOLK SOUTHERN</p> <p>OFFICE OF ASST. VICE PRESIDENT M.P. RR-41.99</p> <p>COMM. & SIGNAL, ATLANTA, GA.</p> <p>JUNCTION CITY, OH.</p> <p>FLOS AT RUSH CREEK RD. (CLAY RD.)</p> <p>WEST VIRGINIA SEC.</p>			

WARNING
REMOVAL OF THE SSSCIII MODULE
WILL CAUSE THE GATES TO
DROP BUT THE LIGHTS WILL
NOT ACTIVATE

CAUTION
ASSURE CORRECT POLARITY
OF THE SSSCIII MODULE OR
SEVERE DAMAGE WILL OCCUR.

ATTENTION!
ENSURE THE DISPLAY MODULE HEATER IS
DISABLED LEAVING THE DISPLAY BATTERY STANDBY
WILL REDUCE THE AMOUNT OF BATTERY STANDBY
TIME IN THE EVENT OF AN AC POWER FAILURE.

HEATER FUNCTION IS JUMPER SELECTABLE ON
THE DISPLAY MODULE BOARD.
THREE OPTIONS ARE AVAILABLE:
NORMAL LCD HTR (DEFAULT)
HI CURRENT
NO JUMPER (HEATER DISABLED)

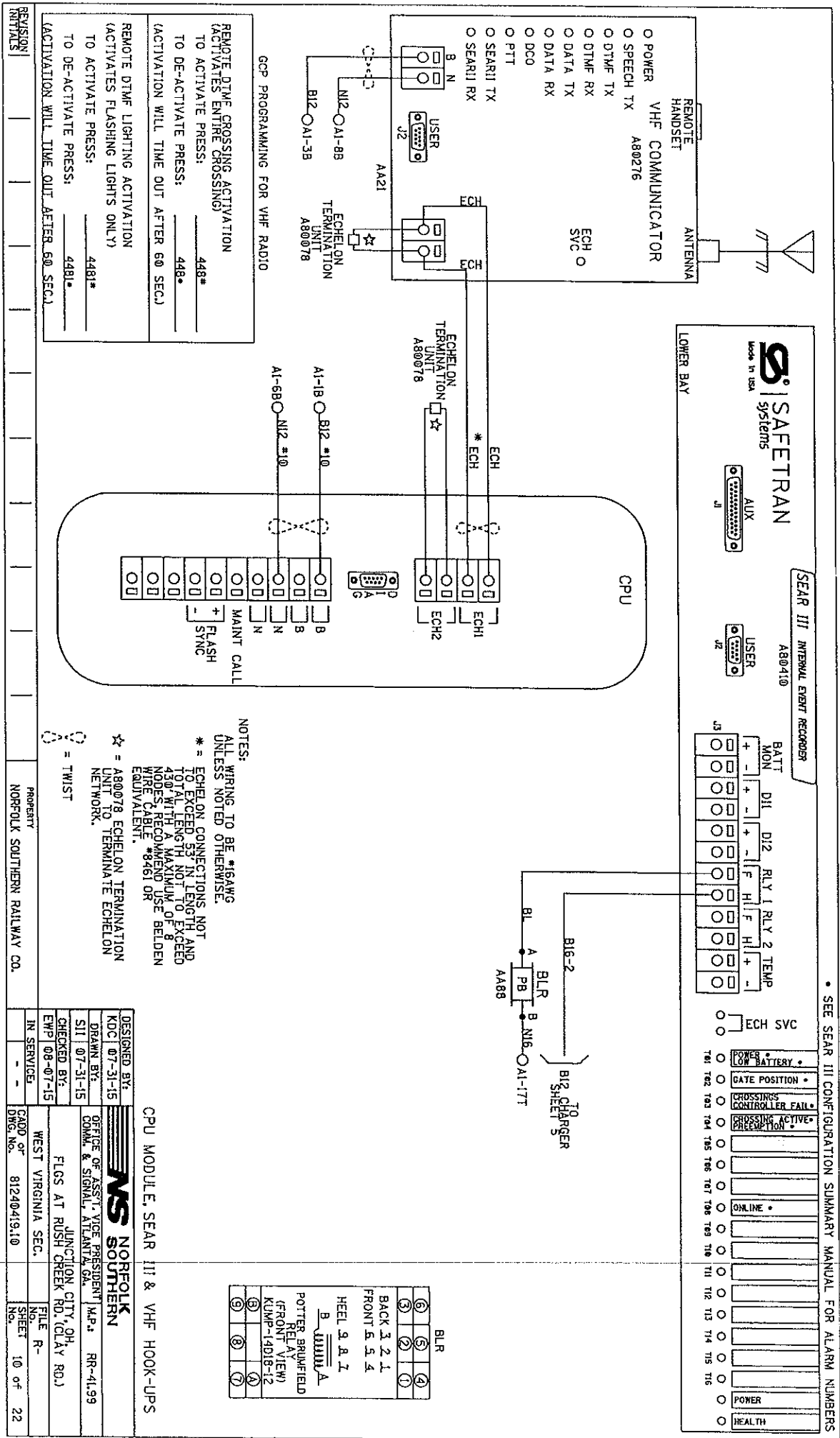
** MAIN AND STANDBY MAY USE RIO IN
TRACK 2 SLOTS (M3 AND M6)

4000 GCP 2-TK CHASSIS
& MODULE LAYOUT

REVISION
INITIALS

DESIGNED BY:	NORFOLK SOUTHERN	
KDC 07-31-15		
DRAWN BY:		
ST11 07-31-15		
CHECKED BY:		
EMP 08-07-15		
IN SERVICE:		
-		
CADD OF	FILE	RR-41.99
DWG. NO. 81249419.08	SHEET 8 of 22	

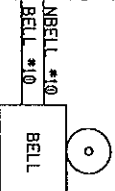
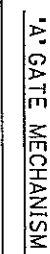
40000 GCP PROGRAMMING SETUP





DESIGNED BY:	NS NORFOLK SOUTHERN		
KOC 07-31-15	OFFICE OF ASST. VICE PRESIDENT M.P. RR-41-99		
DRAWN BY:	COMM. & SIGNAL, ATLANTA, GA.		
SII 07-31-15	FLGS AT RUSH CREEK RD. (CLAY RD.)		
CHECKED BY:	JUNCTION CITY, OH.		
EMP 08-07-15	WEST VIRGINIA SEC.		
IN SERVICE:	FILE NO.	R-	
	CADD OF	SHEET	12 of 22
	DWG. NO.		

SSCC#1 MODULE HOOK-UP



LEFT TWO ROWS TERMINAL BOARD 1

"1A"

"1B"

NOTE: INSTALL TEST LINKS ON ALL TRACK WIRES AND ON ALL LOW VOLTAGE UNDERGROUND CABLE TERMINATIONS.

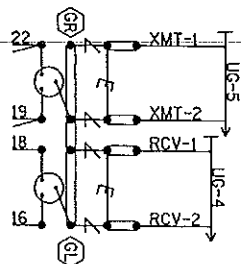
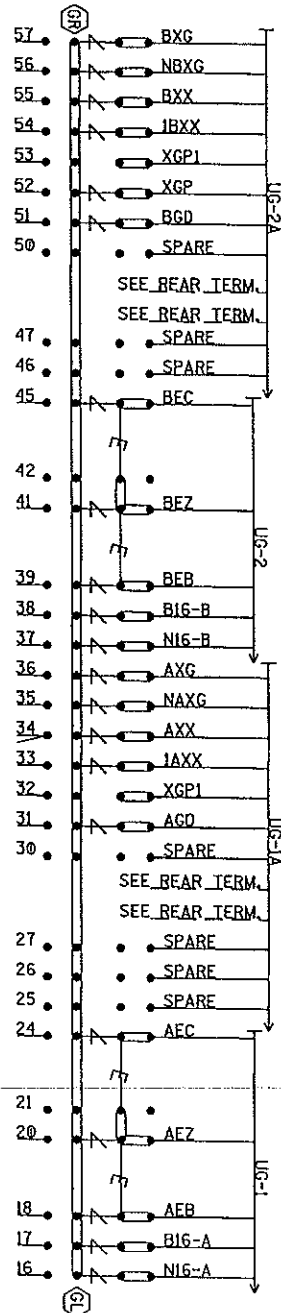
SEE FARADAY SHIELD DETAILS - 1A & 1B FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

-E- = Heavy Duty Equalizer (022700-1X)

⌋ = Lightning Arrestor (022585-1X)

⌋ = LPC-10560-51

GP = TERMINALS GROUNDED TO SHIELD.
GL = 4 POST BLOCKS USE EITHER -
GR - SERIAL PART NO. 61278-1,
GL - SERIAL PART NO. 61278-1.



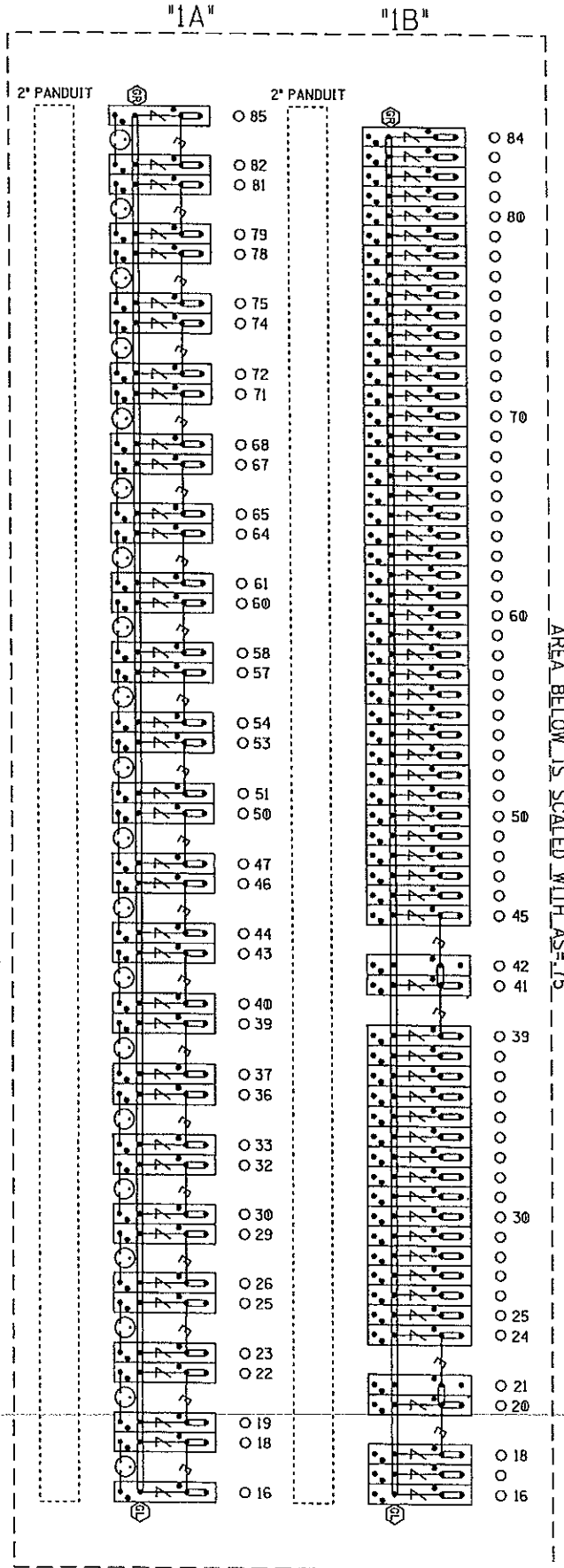
BACKBOARD 1A & 1B

REVISION	INITIALS	DATE	PROPERTY	DESIGNED BY	DRAWN BY	CHECKED BY	IN SERVICE	CAD OF	DRG. NO.	FILE NO.	SHEET	16 of 22
			NORFOLK SOUTHERN RAILWAY CO.	KDCI 07-31-15	SII 07-31-15	EMP 08-07-15		WEST VIRGINIA SEC.	81240419.16			

DESIGNED BY: KDCI 07-31-15
DRAWM BY: SII 07-31-15
CHECKED BY: EMP 08-07-15
FILE NO. 81240419.16
SHEET 16 of 22

PROPERTY: NORFOLK SOUTHERN RAILWAY CO.
DESIGNED BY: KDCI 07-31-15
DRAWM BY: SII 07-31-15
CHECKED BY: EMP 08-07-15
IN SERVICE: -
CAD OF: WEST VIRGINIA SEC.
DRG. NO.: 81240419.16
FILE NO.:
SHEET: 16 of 22

TERMINAL BOARD 1 LEFT HALF



NOTE: IF THE FARADAY SHIELD WOULD EVER NEED TO BE DRILLED IN THE FIELD, PROPER PRECAUTIONS MUST BE TAKEN TO INSURE METAL SHAVINGS DO NOT GET INTO EXISTING TERMINALS/WIRES.

AREA BELOW IS SCALED WITH AS-75

= INDICATES PLACEMENT OF PANDUIT

THIS SHEET IS FOR REFERENCE ONLY, TO REFLECT HOW THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

GR = TERMINALS GROUNDED TO SHIELD.
4 POST BLOCKS USE EITHER -
GR - SERMAN PART NO. 61278
GL - SERMAN PART NO. 61278-1.

⌋ = Heavy Duty Equalizer
(022100-1X)
⌋ = Clearview
⌋ = Lightning Arrestor
(022585-1X)
⌋ = LPC-10560-51

FARADAY SHIELD 1A & 1B

REVISION	INITIALS	PROPERTY	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN SERVICE:	CAD OF	SHEET
		NORFOLK SOUTHERN RAILWAY CO.	KDC 07-31-15	SII 07-31-15	EMP 08-07-15		WEST VIRGINIA SEC.	18 of 22
			OFFICE OF ASST. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	RR-4193	FLGS AT RUSH CREEK RD. (CLAY RD.)		FILE R-	

REVISION
INITIALS

'CA'

'CB'

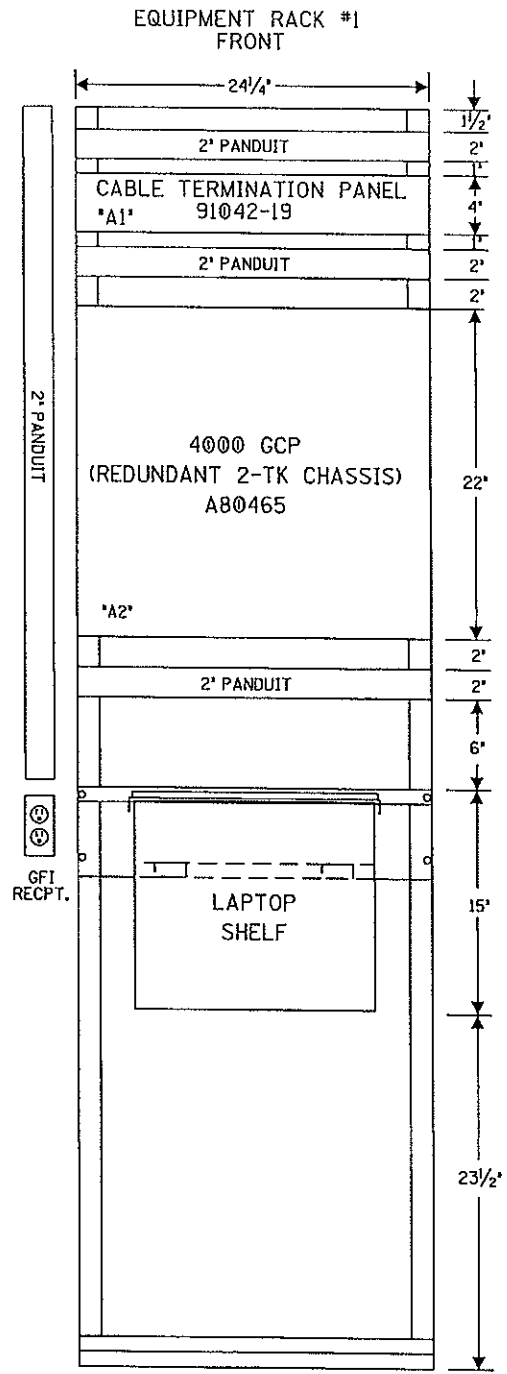
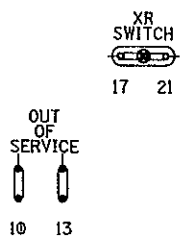
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'CD'

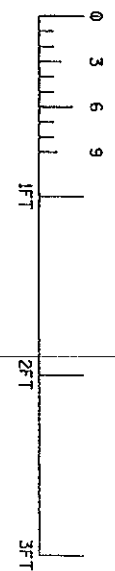
'CE'

'CF'

'CG'



SIDE "C"



PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

DESIGNED BY:	KDC 07-31-15	OFFICE OF ASST. VICE PRESIDENT	FILE NO.	RR-41.99
DRAWN BY:	SII 07-31-15	COMM. & SIGNAL, ATLANTA GA.	FILE NO.	RR-41.99
CHECKED BY:	EMP 08-07-15	WEST VIRGINIA SEC.	FILE NO.	RR-41.99
IN SERVICE:	-	FILE NO.	FILE NO.	RR-41.99
DATE OF	81240419.20	FILE NO.	FILE NO.	RR-41.99
DWG. NO.	81240419.20	FILE NO.	FILE NO.	RR-41.99

HOUSE SIDE C LAYOUT &
RACK PLACEMENT

NORFOLK SOUTHERN



**Public Utilities
Commission**

Asim Z. Naque, Chairman

Commissioners

M. Beth Trombold
Thomas W. Johnson
Lawrence K. Friedeman
Daniel R. Conway

July 25, 2017

Kanawha River Railroad
Mr. Anthony Cox
VP of Engineering
Watco Transportation Services L.L.C.
315 W. 3rd Street
Pittsburg, KS 66762

Re: 1) Perry County, TR 185 Clay Road,
DOT#513-448N, hereinafter
referred to as the "Project"

Dear Mr. Cox:

The Public Utilities Commission of Ohio (PUCO) has identified and the Ohio Rail Development Commission (ORDC) surveyed, on April 26, 2017, the above mentioned grade crossing for warning device upgrades. The location has been approved for flashing lights and roadway gates.

The Project shall comply with Agreement No. 30887, dated July 24, 2017, entered into by the State of Ohio and Kanawha River Railroad (Railroad). Furthermore, the RAILROAD shall comply with all applicable state and federal laws governing grade crossing safety programs.

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

The RAILROAD shall utilize the engineering plans developed by Norfolk Southern Railroad and shall provide estimates for the Project within ninety (90) days after the RAILROAD is notified of authorization to proceed unless otherwise agreed by ORDC/PUCO and the RAILROAD.

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

TR 185/Clay Road
Perry Cty
KNWA

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

Sincerely,



Milan Orbovich
Director of Transportation
Public Utilities Commission of Ohio

Kanawha River Railroad

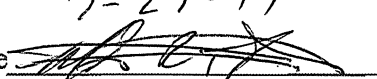
By _____

Title _____

Date _____




Matthew Dietrich
Executive Director
Ohio Rail Development Commission

7-27-17
Date 

TR 185/Clay Road
Perry Cty
KNWA


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

Sincerely,



Milan Orbovich
Director of Transportation
Public Utilities Commission of Ohio

Kanawha River Railroad

By 
Title VP of Engineering
Date 7/31/2017

Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Date _____



Diagnostic Review Team Survey

Reason for Survey:

(e.g. formula, accident, constituent, etc.)

Date: 4/26/2017

Location Data

Street or Road Name:

Route/Road Number
(i.e. Twp., Co., SR or US) TR 185

US DOT No.: 513448N

County: PER

Township: Jackson

City:
(In or Near) Near Junction City

Railroad
Name: Kanawha River Railroad

Railroad
Division: Dearborn

Branch/Line
Name: West Virginia

Nearest RR
Timetable Station: Perry

RR Milepost: 41.99

On-Site Review Team

(Include: Name - Organization - Phone Number - Email)

1. JOSHUA ELZEY - PUCO - 740-637-0588 - JOSHUA.ELZEY@PUCO.OHIO.GOV
2. Walter Lesher - CDL - 304-222-0334 Walter.lesher@CDLelectrical.com
3. LADARNE JACKSON - CDL - 620-8687-9011 LDJACKSON7681@GMAIL.COM
4. FRANK J FONDALC 740-605-6062 Jackson Twp Trustee
5. PAT WOLFE 740-987-2444 JACKSON TWP TRUSTEE
6. Isabella Culliton ORDC
7. Eric J. Nelt ORDC 614-745-6760
8. Sean Crowe - WATCO
9. _____

Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments
Advance Warning Signs (condition?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Inventory Tags	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Cantilever Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Automatic Gates	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Bells	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number:
Sidewalk Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'No Turn' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Illumination	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Safety Data (Obtain crash reports, if possible, prior to review)

	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	1 (11/20/14) and (10/4/00)	
Hazard Ranking	743	Date Run: 3/27/2017

Railroad Data

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	1	
< 1 per day		
Day thru trains	1	
Night thru trains		
Daytime switching movements		
Nighttime switching movements		
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks		
Maximum train speed	40 25 40	
Typical train speed	40 25 40	
Amtrak		

If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) ☐ Yes ☐ NoIf multiple tracks, can two trains occupy crossing at the same time? ☐ Yes ☒ NoCan one train block the motorists' view of another train at crossing? ☐ Yes (Explain below) ☒ NoCan one or more tracks be eliminated through the crossing? ☐ Yes ☒ NoAre there other track(s) crossing this same roadway within 100 ft of this crossing? ☐ Yes ☒ No

If yes, Crossing DOT #(if different) _____

If yes, distance _____ (take measurement between track centerlines at closest point along roadway)

Roadway Data

Local Highway Authority: Jackson Twp.

Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	40 (2015)	
Highway paved	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Roadway Surface: <input type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Other	Chip & Seal	
Roadway width: 16 ft.		
Number of highway lanes	1	
Urban or Rural	Rural	
Vehicle Speed: 35 MPH		

School Bus Operation: ☐ No ☒ Yes 3 AmountHazardous Materials Trucks: ☐ No ☒ Yes 0.6% AmountShoulders: ☒ No ☐ YesIs the shoulder surfaced? ☒ No ☐ YesIs there existing guardrail along roadway in crossing vicinity? ☐ No ☒ YesIs stopping site distance adequate? (See Table 2) ☒ Yes ☐ No If no, deficient approach(es) _____

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:

OK

Culverts / Drainage / Ballast Conditions:

OK

Roadway and/or Sidewalks:

N/A

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

N/A

Environmental:

N/A

Other:

Quadrant <u>NW</u> Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None	Quadrant <u>SE</u> Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None
---	---

Pedestrians: ☒ No ☐ Yes

Is sidewalk present? ☒ No ☐ Yes

Is there a nearby intersection that could cause queuing over the crossing? ☒ No ☐ Yes

If yes,
Distance _____

Is this intersection signalized? ☒ No ☐ Yes

Are the signals currently interconnected with the existing crossing warning devices? ☒ No ☐ Yes

Is there a 'Do not Stop on Track' sign? ☒ No ☐ Yes

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? ☒ No ☐ Yes

If yes,
Improvement type _____ Lead Agency _____ Timeline/completion - _____

Is it the consensus of the Diagnostic Review Team that this is a potential closure project? ☒ No ☐ Yes
 Explain reasons:

Type of Development

<input checked="" type="checkbox"/> Open Space <input type="checkbox"/> Institutional <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential	Location of nearby schools:
--	-----------------------------

Utility Information

Is commercial power available? ☐ No ☒ Yes

Utility Provider (Company Name) South Central Phone Number _____

Nearest Available Power Source TBD - either on SR 37 or to south on TRIS

What other utilities are present? (add locations to sketch)

<input checked="" type="checkbox"/> Gas	<input type="checkbox"/> Cable	<input type="checkbox"/> Telephone	<input type="checkbox"/> Fiber Optic Cable
<input type="checkbox"/> Petroleum	<input type="checkbox"/> Water	<input type="checkbox"/> Sanitary Sewer	
<input type="checkbox"/> Other _____			

Is(are) there potential utility conflict(s) ☐ Yes ☐ No ☒ Unknown

Comments: Probably Not - can put house & base out of way if needed

Diagnostic Team Recommendations

	Quadrants Needed
<input checked="" type="checkbox"/> Install/upgrade active devices	
<input checked="" type="checkbox"/> Automatic Flashing Lights (AFLS)	
<input type="checkbox"/> AFLS / Cants	
<input type="checkbox"/> AFLS / Gates	
<input type="checkbox"/> AFLS / Gates / Cants	
<input checked="" type="checkbox"/> Bells / number	1
<input type="checkbox"/> Upgrade circuitry / type	
<input checked="" type="checkbox"/> Sidelights	TBD
<input type="checkbox"/> Guardrail Needed	
<input type="checkbox"/> Install/Replace curb	
<input type="checkbox"/> Bungalow placement & offset from rail & highway	
<input type="checkbox"/> Other (define)	

Comments:


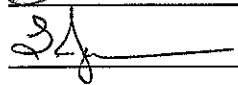
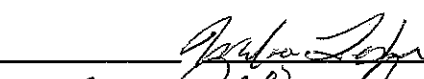

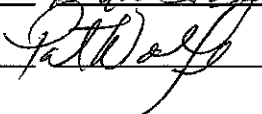
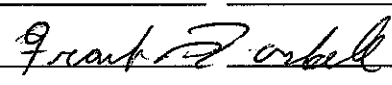
Install AFLS

☐ Install/upgrade traffic signal preemption

☐ No improvements needed

☐ Other (define)

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

Field Dimensions

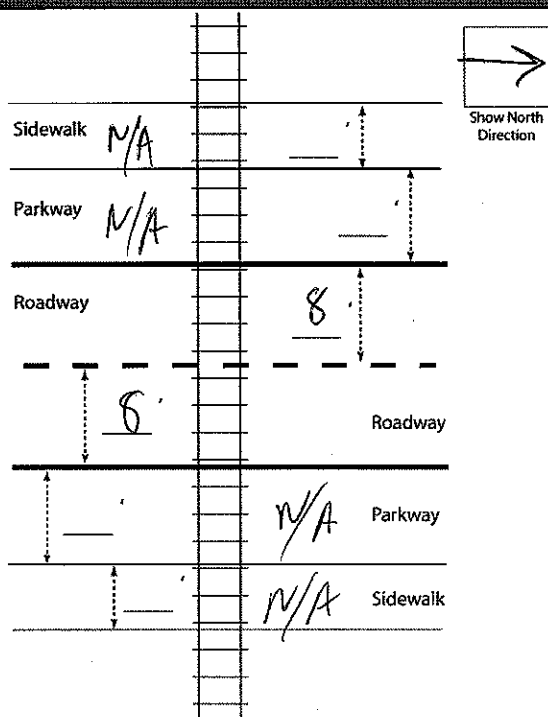


TABLE 1

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.

Table 2

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)

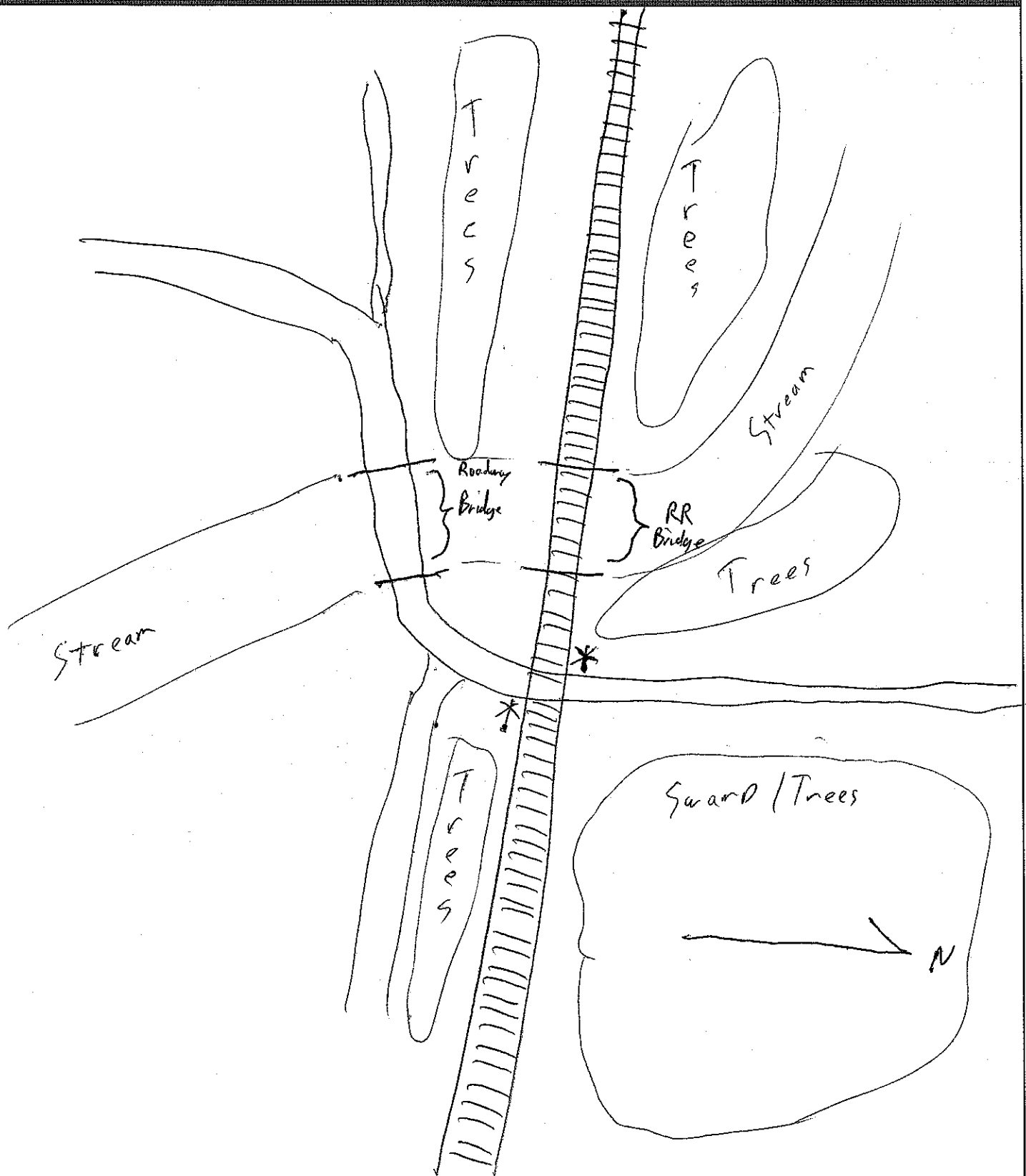
Notes:

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.

Field Sketch



Crossing Angle ☐ 0-29° ☐ 30-59° ☒ 60-90° Measured in NW Quadrant?

Sketch by:



Diagnostic Review Team Survey

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

Formula

Date: 4/20/2015

Location Data

Street or Road Name: Clay Road			
Route/Road Number (i.e. Twp., Co., SR or US) TR 185		US DOT No.: 513448N	
County: PER	Township: Jackson	City: (In or Near)	Near Junction City
Railroad Name: Norfolk Southern Railroad	Railroad Division: Dearborn	Branch/Line Name: West Virginia	
Nearest RR Timetable Station: Perry		RR Milepost: 41.99	

On-Site Review Team

(Include: Name - Organization - Phone Number - Email)

1. Joe Benhardt ORDC 614-644-0291
2. George Martin PUCO 614-752-9107
3. Patricia Wolfe JACKSON TWP 740-987-2444
4. Grand Township JACKSON TWP 740-605-6062
5. Paul Martin N.S. 740-418-8833
6. _____
7. _____
8. _____
9. _____

Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments
Advance Warning Signs (condition?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	W/ YIELD
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Inventory Tags	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Cantilever Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Automatic Gates	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Bells	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number:
Sidewalk Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'No Turn' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Illumination	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Other	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Safety Data (Obtain crash reports, if possible, prior to review)		
	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	1 (11/20/14)	
Hazard Ranking	663 Date Run: 4/7/2015	
Railroad Data		
Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	4	
< 1 per day		
Day thru trains	2	
Night thru trains	2	
Daytime switching movements		
Nighttime switching movements		
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks		
Maximum train speed	40	
Typical train speed	40	
Amtrak		
If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table I) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If multiple tracks, can two trains occupy crossing at the same time? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Can one train block the motorists' view of another train at crossing? <input type="checkbox"/> Yes (Explain below) <input checked="" type="checkbox"/> No Can one or more tracks be eliminated through the crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are there other track(s) crossing this same roadway within 100 ft 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)		
Roadway Data		
Local Highway Authority: Jackson Township		
Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	24 (2014)	40
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 <input type="checkbox"/> Other _____		
Roadway width: 12 ft.		
Number of highway lanes	1	
Urban or Rural	Urban	Rural
Vehicle Speed: 35 MPH		
School Bus Operation: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes _____ Amount		
Hazardous Materials Trucks: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes _____ Amount		
Shoulders: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is the shoulder surfaced? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is there existing guardrail along roadway in crossing vicinity? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is stopping site distance adequate? (See Table 2) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, deficient approach(es) _____		

Potential Red Flags / Project Challenges

Traffic Signal Preemption (include traffic signal intersection name and LHA with jurisdiction over traffic signal, if known):

Crossing Consolidation or Closure:

Real Estate or ROW:

Culverts / Drainage / Ballast Conditions:

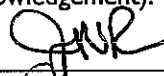


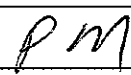
Roadway and/or Sidewalks:

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

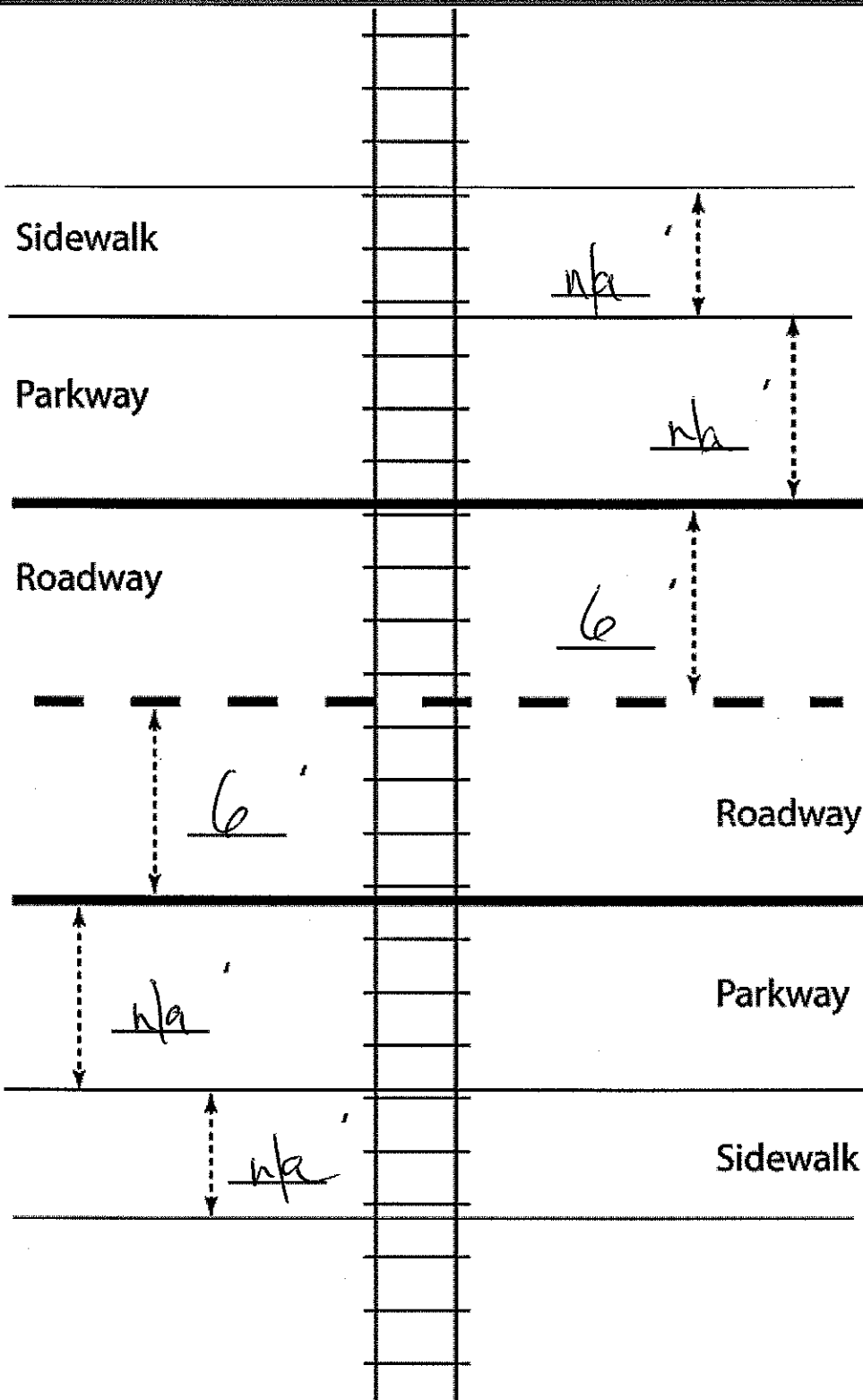
Environmental:

Other:

Crib Wall and/or Dirt Field will be required to install foundations on the hump crossing.

Diagnostic Team Recommendations	
	Quadrants Needed
<input checked="" type="checkbox"/> Install/upgrade active devices	
<input type="checkbox"/> Automatic Flashing Lights (AFLS)	
<input type="checkbox"/> AFLS / Cants	
<input checked="" type="checkbox"/> AFLS / Gates	
<input type="checkbox"/> AFLS / Gates / Cants	
<input type="checkbox"/> Bells / number	
<input type="checkbox"/> Upgrade circuitry / type	
<input type="checkbox"/> Sidelights	
<input type="checkbox"/> Guardrail Needed	
<input type="checkbox"/> Install/Replace curb	
<input type="checkbox"/> Bungalow placement & offset from rail & highway	
<input type="checkbox"/> Other (define)	
Comments: <ul style="list-style-type: none"> • Curb Wall needed in NW Quadrant. • Long electric hook-up required. 	
<input type="checkbox"/> Install/upgrade traffic signal preemption	
<input type="checkbox"/> No improvements needed	
<input type="checkbox"/> Other (define)	
Acknowledgement of Recommendations (each entity represented at the diagnostic must have at least one signature acknowledgement): <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="text-align: center;">  _____  _____ </div> <div style="text-align: center;">  _____  _____ </div> <div style="text-align: center;"> _____ _____ _____ </div> </div>	

Field Dimensions

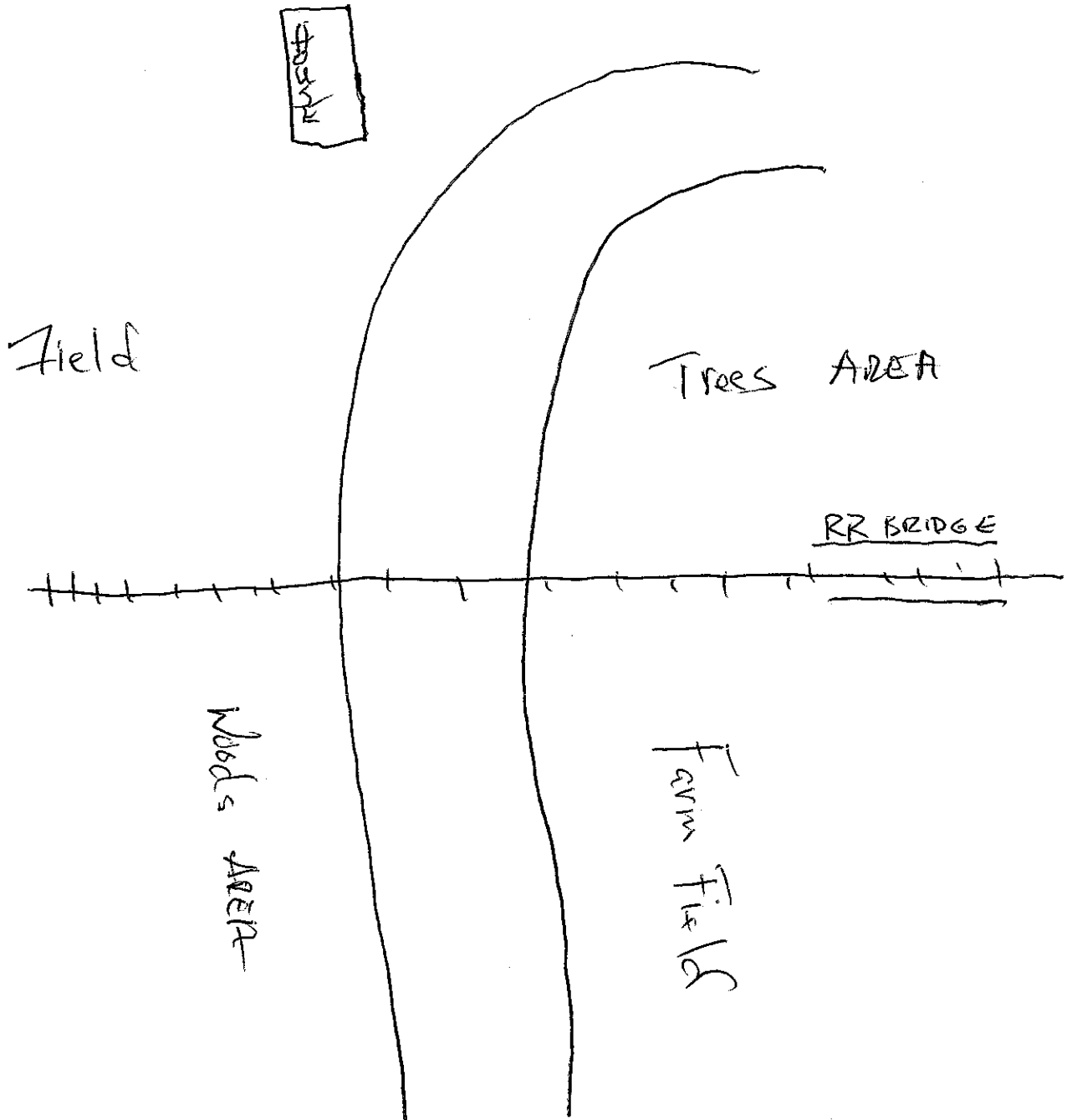


Crossing Angle ☐ 0-29° ☐ 30-59° ☒ 60-90° Measured in _____ Quadrant?

Measurements by: gn

Field Sketch

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



Crossing Angle ☐ 0-29° ☐ 30-59° ☒ 60-90° Measured in _____ Quadrant?

Sketch by: 

TABLE I

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.

Table 2

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.

4-20-15
JWK

This foregoing document was electronically filed with the Public Utilities

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Case No(s). 17-2305-RR-FED

Summary: Application In the Matter of a Request for Installation of Active Warning Devices at Kanawha River Railroad Grade Crossing, DOT#513-448N , on TR 185 in Perry County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division