

# Memo

To: Docketing Division  
From: Jill Henry, Rail Specialist, Rail Division  
Cc: PUCO Legal Department  
Date: 6/6/2019

Re: PUCO Case No. 19-1293-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices and Surface Expansion at the Norfolk Southern Railway Crossing, Jefferson Street/SR 103 DOT#476-870S, in Allen County, Ohio.

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On October 30, 2018, the Ohio Rail Development Commission (ORDC) authorized funding for Norfolk Southern Railway to install lights and gates and expand the crossing surface at Jefferson Street/SR 103 DOT#476-870S in Allen County, Ohio. The crossing was surveyed, on May 8, 2018, and found to warrant the upgrade. The electric utility provider for this crossing is AEP- Ohio Power.

The project will be paid for with federal funds and is actual cost. The plans and estimates in the amount of \$428,536.00 (\$362,961.00 for the devices and \$65,575.00 for the surface) have been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in twelve 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  
1200 Peachtree Street NE  
Box 123  
Atlanta, GA 30309-3597

Norfolk Southern Railway Company  
Cayela Wimberly  
Director Grade Crossing Safety  
1200 Peachtree Street NE  
Atlanta, GA 30309-3597

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  
Cathy Stout  
Safety Manager  
1980 West Broad Street  
Mail Stop #3140  
Columbus, OH 43223

Village of Bluffton  
Jesse Blackburn  
Village Administrator  
154 N. Main Street  
P.O. Box 63  
Bluffton, OH 45817

AEP- Ohio Power

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

**TO:** Randall Schumacher, Chief, Rail Division, PUCO

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

**BY:** Don Damron

**SUBJECT:** Allen County, SR 103-1.62  
DOT # 476870S  
PID # 107610

**DATE:** May 31, 2019

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The Ohio Rail Development Commission established a Diagnostic Review Team Survey at the subject location on 5-8-2018. The Public Utilities Commission of Ohio (PUCO) attended the Review. The Diagnostic Team recommended that the existing active warning device system (flashing lights only) be upgraded to include new flashing lights and gates along with an expanded crossing surface to accommodate sidewalks on both sides of the roadway within the railroad right-of-way. Copies of the diagnostic review form and the plan and estimates are attached.

PE has already been provided by the railroad. ORDC accepts the site plans and estimates as provided. 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.

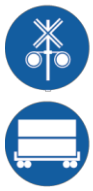
It is expected that all work necessary for FHWA acceptance of the warning devices will be completed by the in-service due date and that the railroad will be responsible for this work. This work includes, but is not limited to:

- 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 Team Survey  
NS Plan & Estimates

c: Jill Henry, Rail 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

May 31, 2019

Kurt Young  
Administrator, Grade Crossing Program  
Norfolk Southern Corp.  
Office 7014  
1200 Peachtree St. NE, Box 123  
Atlanta, GA 30309

RE: Allen County, SR 103-1.62, Jefferson St.  
DOT# 476870S; PID# 107610

Dear Mr. Young:

The plan and estimate dated 1-16-2019 for the referenced project are acceptable. Please note that the railroad must provide ORDC with a plan stamped by a professional engineer licensed in the State of Ohio prior to acceptance and close out of the project. Norfolk Southern Corp. may proceed with the construction of the modifications to the existing grade crossing warning system and the construction of an expanded crossing surface in accordance with the abbreviated plan. The expanded crossing surface should accommodate sidewalks on both sides of the roadway within the railroad right-of-way. This authorization is made with the stipulation and understanding that the approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit. Reimbursement of eligible actual cost is limited to \$428,536.00. (This includes \$362,961.00 for the warning devices and \$65,575.00 for the expanded crossing surface.) 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 Norfolk Southern Corp. accepting the following instructions:

1. The NS project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Don Damron, ORDC, (614) 917-8466 or email [don.damron@dot.ohio.gov](mailto:don.damron@dot.ohio.gov), and to the Public Utilities Commission of Ohio at [Jill.henry@puc.state.oh.us](mailto:Jill.henry@puc.state.oh.us). The NS 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.



[www.rail.ohio.gov](http://www.rail.ohio.gov)

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

3. The NS project foremen will notify Don Damron at (614) 917-8466 (cell) or [don.damron@dot.ohio.gov](mailto:don.damron@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. Both warning devices in quadrant A and B should each be equipped with a bell.
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.

This project is authorized for construction under the master agreement between Ohio Rail Development Commission, Public Utilities Commission of Ohio and Norfolk Southern executed on December 19, 2012.

Thank you for your assistance with these matters.

Sincerely,



Donald J. Damron  
Project Manager

C: Randall Schumacher, Chief, Rail Division, PUCO  
Jill Henry, Rail Specialist, PUCO  
Heather Hamilton, ORDC  
ORDC (file)



16-Jan-19

**Detailed Estimate for Grade Crossing Warning Devices**

City/State: BLUFFTON, OH  
MilePost: SP-73.51  
State Proj. No.: PID 107610  
S&E Proj. No.: 10.3223  
Man Days: 192

Road: JEFFERSON STREET  
(SR103)  
DOT/AAR: 476870S  
County: ALLEN  
File Number:

<b>***Purchases - Others***</b>	
Meals and Lodging:	\$27,323.14
Rental of Equipment:	\$37,350.62
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 32 Days)	
Construction Supervision Vehicle:	\$5,713.39
Purchases - Other Total:	\$70,387.15
<b>***Material And Additives***</b>	
Material Cost:	\$115,076.00
Sales and Use Tax:	\$9,206.00
Material Handling Freight:	\$11,507.65
Material Total:	\$135,789.65
<b>***Labor And Additives***</b>	
Labor Cost:	\$64,320.00
(6 man crew at \$2,010.00 a day for: 32 days)	
Payroll Tax & Overheads:	\$54,839.23
Preliminary Engineering:	\$18,836.63
Construction Supervision:	\$18,787.87
Labor Total:	\$156,783.73
Project Cost:	\$362,960.53
Scrap / Salvage Credit:	\$0.00
<b>Project Total:</b>	<b>\$362,961.00</b>

Estimated on: 16-Jan-19

Estimated by: ndr3j

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



## Norfolk Southern Railway

### Highway Crossing Signalization Program - Material List

Do not substitute items without permission from S & E Engineering

City:	BLUFFTON
Road:	JEFFERSON STREET (SR103)
Mile Post:	SP-73.51
Drawing Number:	LMPS07350
State ProjectNumber:	PID 107610
County:	ALLEN
A A R Number:	476870S
Project Number:	10.3223
File Number:	
New File Number:	CX1113373
WBS:	F-05503
Store Number:	S803
Supervisor:	T. McCROSKEY
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&EGen. Supt. Construction w/copy of invoice	

Location: BLUFFTON OH S&E Proj. No.: 10.3223 AFE No.: F-05503 Drawing No.: LMP507350  
Store No.: S803 P.O.Number: Date Required: Date Shipped: Vendor: Progress Rail Services

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Date	Quantity Installed Date	Quantity Returned (Credit)	Special Instructions
3	670-360693-4	EA	\$5.80	\$17.40	AAR/DOT NUMBER PLATE/DECAL, ORDER 3 PER PROJECT. 60 DAY LEAD TIME. SUPPLIED BY STRAN.					
1	165-006505-4	EA	\$1,075.23	\$1,075.23	AC SERVICE, COMPLETE LESS METER BASE, ASSEMBLED ON 30' POLE					
27	670-001196-4	EA	\$47.30	\$1,277.10	ARRESTER, LIGHTNING SOLID STATE ERICO P/N EPD2050F					
20	105-002620-4	EA	\$248.79	\$4,975.80	BATTERY, NICAD 340AH, MODEL SPL340					
1	670-503047-4	EA	\$183.15	\$183.15	BELL, CROSSING ELECTRONIC GENERAL SIGNAL, EB-3-360-5 CR 02-044350					
4	670-005125-4	EA	\$7.24	\$28.96	BLOCK, TERMINAL BAKELITE FOR MOUNTING LIGHTING ARRESTOR EQUALIZER OR RESISTANCE UNIT					
2	670-980689-4	EA	\$75.48	\$150.96	BRACKET HIGH WIND, (RIGID 3'), WIG- 191036, WALRUS TUSK TYPE					
2	670-561375-4	EA	\$1,208.79	\$2,417.58	BRACKET, GATE SAVER, NEG385102GS, SPRING LOADED SWING AWAY ADAPTER FOR FIBERGLASS/ALUMINUM GATES, USE WITH GATE 38' AND LESS					
1	165-001612-4	EA	\$7.49	\$7.49	BREAKER, 20 AMP 120-240V SQUARE D Q0120 SINGLE POLE					
500	465-939422-4	LF	\$2.93	\$1,465.00	CABLE, UG 12 CONDUCTOR NO 14 AWG SOLID EACH CONDUCTOR WITH 5/64 IN INSULATION 10 MIL					
1000	465-292862-4	LF	\$1.49	\$1,490.00	CABLE, UG 2-6 TWISTED, S-23 OKONITE 113-12-3933 SOLID TINNED CONDUCTOR					
500	465-292929-4	LF	\$4.13	\$2,065.00	CABLE, UG 5 COND. NO. 6 AWG SOLID COPPER CABLE TO MEET NS CORP. SPEC. FOR SIGNAL					
350	465-791835-4	FT	\$3.54	\$1,239.00	CABLE, UG AC ENTRANCE 3C#6-7X OKONITE FMPF-L 094-078 TR W/G 1 X 8 7X W010 BRZ TAPE 600V PRODUCT CODE 206-11-6070					
4	670-010671-4	EA	\$738.15	\$2,952.60	CHARGER, BATTERY CRAGG MODEL 40 DTC-12V, 40 AMP, P/N 520940					
4	670-664917-4	EA	\$87.64	\$350.56	CONNECTOR KIT, WELDED FAR RAIL, CONSISTING OF RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, 1 SPLICING SLEEVE, 1 REDUCING SLEEVE, 3 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-2X					

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CAR NUMBER

SEAL NUMBER



Location: BLUFFTON OH S&E Proj. No.: 10.3223 AFE No.: F-05503 Drawing No.: LMP507350  
Store No.: S803 P.O. Number: Date Required: Date Shipped: Vendor: Progress Rail Services

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Date	Quantity Installed Date	Quantity Returned (Credit)	Special Instructions
4	670-632520-4	EA	\$77.63	\$310.52	CONNECTOR KIT, WELDED NEAR RAIL, CONSISTING OF, RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, SPLICING SLEEVE, 1 REDUCING SLEEVE, 5 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-1X					
2	670-793404-4	EA	\$1,205.32	\$2,410.64	COUNTERWEIGHT PKAGE, 17-24 GATE STRAN S-MECH ONLY, STAINLESS, TO INCLUDE HUB, SUPPORT ARMS					
4	670-760012-4	EA	\$9.95	\$39.80	COVER, FOR 1 WAY FLASHING LIGHT ASSY. 18 OZ. BLACK VINYL COATED NYLON. ===== TO COVER 2 LAMPS=====					
1	670-986650-4	EA	\$354.27	\$354.27	DISPOSAL, CONSTRUCTION DEBRIS AND CLEANING X'ING EQUIPMENT CONTAINER					
2	670-228165-4	EA	\$12.25	\$24.50	EQUALIZER, SAFETRAN 022700-1X LESS BASE, MODERN NO. 700-1 SHUNT ARRESTER TRACK CIRCUITS CR 02-197950					
1	670-000004-4	EA	\$700.00	\$700.00	FCC LICENSE FOR MONITOR/RADIO					
6	670-001486-4	EA	\$1.44	\$8.64	FERRITE BEAD (USED IN INSTALLATION OR RCL LOCATIONS) IPN: Z590-00016-0000					
4	670-000003-4	EA	\$255.85	\$1,023.40	FILL/STONE #57, QUANTITY IS BASED ON TRUCK LOAD PLUS DELIVERY COST					
2	670-015231-4	EA	\$599.40	\$1,198.80	FOUNDATION, DIXIE,S-2 GATE 26"X26"X56" ASSEMBLED					
2	670-005377-4	EA	\$338.00	\$676.00	GATE ARM, ALUMINUM, 17-24 FT. ARM ASSEMBLY, INCLUDES GATE GUARD FOR GATE LIGHT CABLE. HIGH INTENSITY VERTICAL STRIPES.					
1	670-018333-4	KT	\$1,107.52	\$1,107.52	KIT, FOREMAN CROSSING SIGNAL (INCLUDES 10-757356, 10-841068, 2-899801, 2-904890, 50-917900, 32-840003, 1-003360, 1-809007, 2-754202, 55-938285, 2-204244, 2-656656, 50-917869, 1-005458, 2-810339, 1-447991, 2-805560, 1-330382, 1-986008, 100 WHITE TAGS AND					
2	670-092155-4	EA	\$160.00	\$320.00	LAMP ASSY, LED GATE ARM KIT (INCLUDES 3 LAMPS COMPLETE WITH CABLES AND MTG. HARDWARE) REC #: 9298-1120					
2	670-005058-4	EA	\$1,786.08	\$3,572.16	LAMP ASSY, LED, 5" MAST BACK TO BACK LIGHTS (IPN: 042003-L487XNS)					
25	670-440826-4	EA	\$1.90	\$47.50	LINK, SAFETRAN 024620-1X INSL TESTING COMP 1 IN CENTER SIGNAL CIRCUITS CR 02-286662					

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Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Date	Quantity Installed Date	Quantity Returned (Credit)	Special Instructions
8	670-440826-4	EA	\$1.90	\$15.20	LINK, SAFETRAN 024620-1X INSL TESTING COMP 1 IN CENTER SIGNAL CIRCUITS CR 02-286662					
4	670-442062-4	EA	\$1.85	\$7.40	LINK, TEST SAFETRAN 024620-4X COMP FOR MTG ON AAR TERM 2-3/8" CENTER W/SPECIAL NUT & CLAMP NUT					
2	670-637778-4	EA	\$1,384.63	\$2,769.26	MAST, 5" ALUMINUM 13'10" WITH DOUBLE JCT. BOX BASE. STRAN P# 070519-11AX.					
2	670-521147-4	EA	\$3,715.27	\$7,430.54	MECHANISM, GATE MODEL S-40, WITH CONTACT HEATER, COMPLETE W/RELAY STRAN # 074000-W00090					
4	670-000001-4	EA	\$726.23	\$2,904.92	MISC. EXPENSE, MATERIAL/FILL					
2	000-000000-4	EA	\$7,000.00	\$14,000.00	MISC. EXPENSE, UNDERGROUND BORING					
2	670-008555-4	EA	\$4,800.00	\$9,600.00	MS4000 - 1TRK (1TC) -NON-REDUNDANT (INCL. 1 TRK CHASSIS A80490, 1CPU A80403, 1 TRK MOD A80418 & 3 BLANKS)					
2	670-001347-4	EA	\$57.10	\$114.20	PACKAGE, HARDWARE SIGN 5 IN. MOUNTING, SERRMI A1250-5, HARMON @200965-000, OR					
2	670-018543-4	EA	\$49.23	\$98.46	PADLOCK, ABLOY 5/16" X 2" SHACKLE CLEARANCE KEYED FOR C&S DEPT USE; INCLUDES ETCHING;					
1	255-646807-4	EA	\$31.19	\$31.19	PADLOCK, SAFETRAN PART NO. 030399-29X SCREW TYPE FOR CIR CONTROLLER AND BTY. BOX					
1	670-514605-4	EA	\$11.11	\$11.11	PINNACLE, W-C SECT 1-11, 4" & 5" REF K1 110-8 OR SAFETRAN NO. @035045-503X					
1	670-000013-4	EA	\$10,234.00	\$10,234.00	POLELINE CONSTRUCTION BY LOCAL POWER COMPANY FOR SERVICE					
4	465-002899-4	EA	\$40.24	\$160.96	REEL, CABLE DISPOSABLE FOR CROSSING SIGNAL PACKAGES					
1	670-019623-4	EA	\$29,416.38	\$29,416.38	SHELTER, WIRED XING 6X6 PTMW 91000778, 10,000 BTU AC AND 1000W HEATER, WITH HEAVY DUTY HASP AND 36 IN TERMINAL BOARD					
6	670-586967-4	EA	\$44.91	\$269.46	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT					
2	670-016312-4	EA	\$697.62	\$1,395.24	SHUNT, MULTI-FREQ. #250849-004 FSS-1E ALSTOM NARROW BAND (211, 285, 348, 430, 525)					
4	670-016315-4	EA	\$700.70	\$2,802.80	SHUNT, MULTI-FREQ. #250849-005 FSS-1F ALSTOM NARROW BAND (430, 525, 645, 790, 970)					

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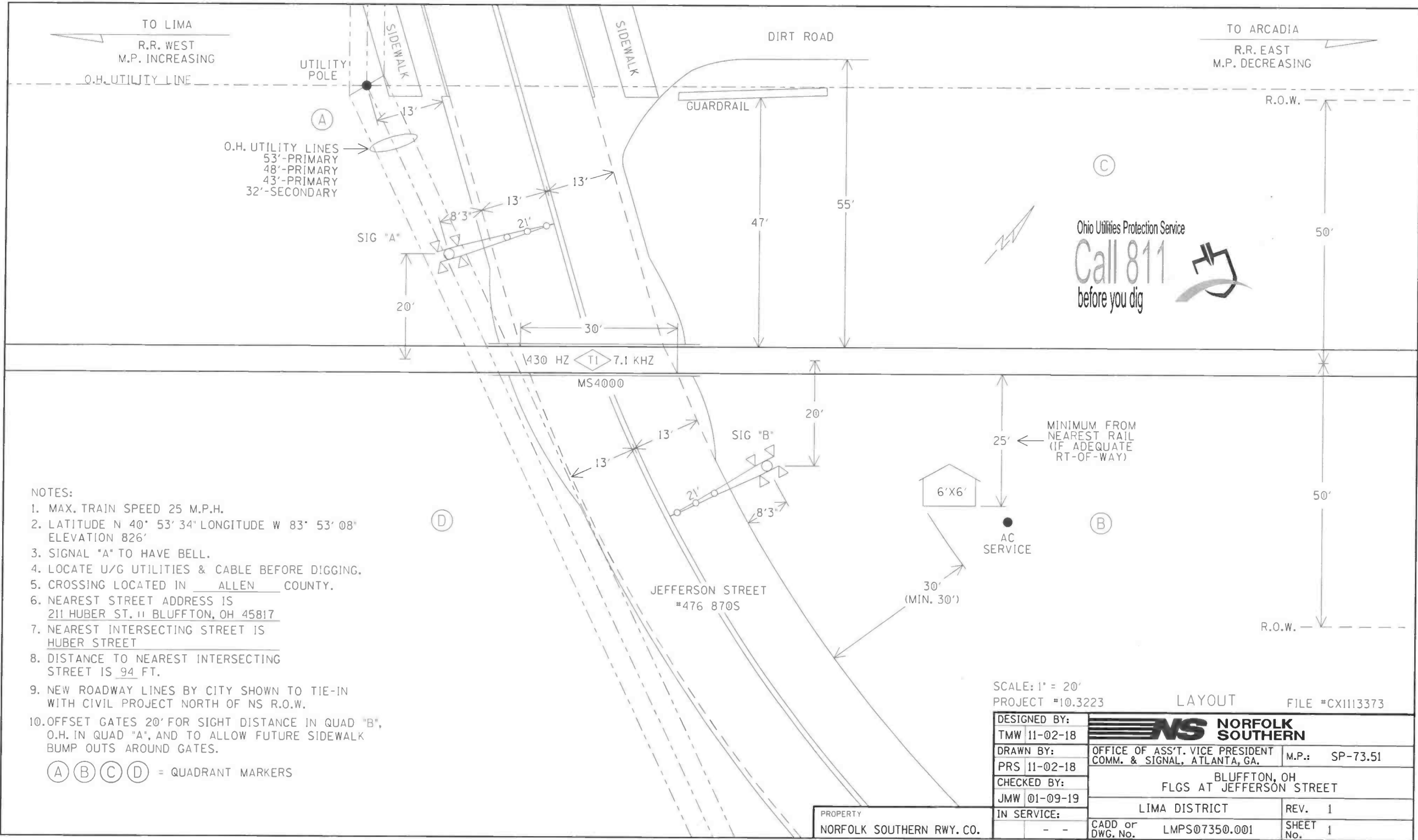
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Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Date Quan.	Quantity Date Quan.	Quantity Date Quan.	Quantity Returned (Credit)	Special Instructions
2	670-016346-4	EA	\$143.23	\$286.46	SIGN, X-BUCK, HI-INTENSIVE REFLECTIVE FRT. & BACK FOR ALL STATES, SAFETRAN# 035200-91X						
2	670-393331-4	EA	\$53.74	\$107.48	SIGN, CROSSING ENS MALFUNCTION ASSEMBLY FOR 4" AND 5" MAST, SAFETRAN #T17215						
42	670-018188-4	EA	\$41.33	\$1,735.86	TERMINAL BLOCK, THRU POST WITH HARDWARE LESS LIGHTNING ARRESTER. SIEMENS P/N NYK: 023275-17X.						
75	465-999111-4	LF	\$0.38	\$28.50	WIRE, NO.10, 1 CONDUCTOR, CASE, FLEXIBLE 37 STRAND, 3/64 IN. INSULATION-ORDER EXT.AMT. NEEDED CR 02-620502						
250	465-293633-4	LF	\$0.47	\$117.50	WIRE, NO.12, 1 CONDUCTOR, CASE, FLEXIBLE, INSULATED, SAFETRAN P/N T18929						
250	465-458198-4	FT	\$0.20	\$50.00	WIRE, NO.16, 1 CONDUCTOR, CASE, FLEXIBLE, 19 STRAND, 2/64 IN. INSULATION						

Total Material: \$115,076.50

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 CAR NUMBER
 SEAL NUMBER





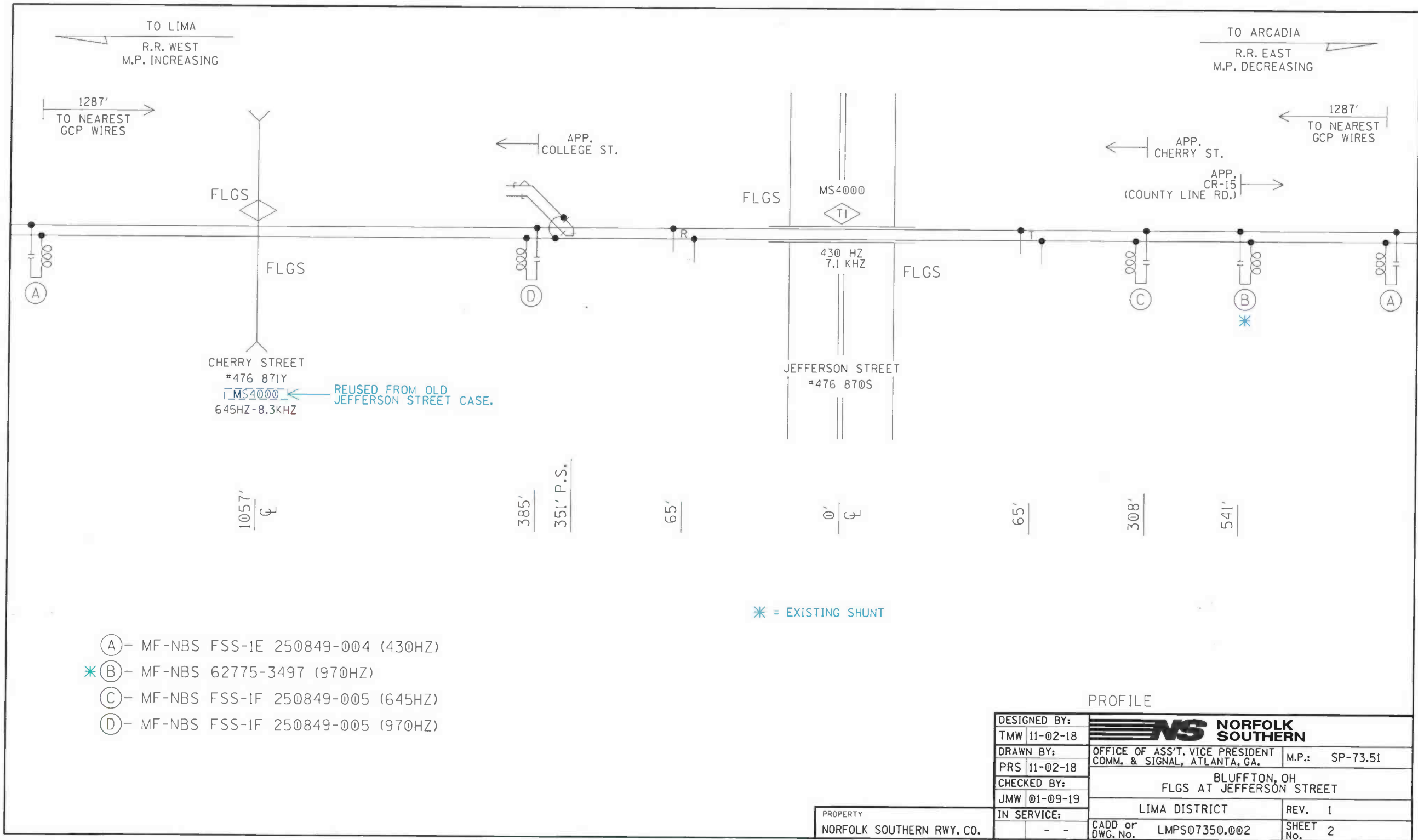
- NOTES:
- 1. MAX. TRAIN SPEED 25 M.P.H.
  - 2. LATITUDE N 40° 53' 34" LONGITUDE W 83° 53' 08" ELEVATION 826'
  - 3. SIGNAL "A" TO HAVE BELL.
  - 4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
  - 5. CROSSING LOCATED IN ALLEN COUNTY.
  - 6. NEAREST STREET ADDRESS IS 211 HUBER ST. || BLUFFTON, OH 45817
  - 7. NEAREST INTERSECTING STREET IS HUBER STREET
  - 8. DISTANCE TO NEAREST INTERSECTING STREET IS 94 FT.
  - 9. NEW ROADWAY LINES BY CITY SHOWN TO TIE-IN WITH CIVIL PROJECT NORTH OF NS R.O.W.
  - 10. OFFSET GATES 20' FOR SIGHT DISTANCE IN QUAD "B", O.H. IN QUAD "A", AND TO ALLOW FUTURE SIDEWALK BUMP OUTS AROUND GATES.

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

SCALE: 1" = 20'  
PROJECT #10.3223 LAYOUT FILE #CX1113373

DESIGNED BY:	NS NORFOLK SOUTHERN		
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: SP-73.51
PRS 11-02-18			
CHECKED BY:	BLUFFTON, OH		
JMW 01-09-19	FLGS AT JEFFERSON STREET		
IN SERVICE:	LIMA DISTRICT	REV. 1	
	CADD or DWG. No. LMP07350.001	SHEET No. 1	

PROPERTY  
NORFOLK SOUTHERN RY. CO.





TO LIMA  
R.R. WEST  
M.P. INCREASING

TO ARCADIA  
R.R. EAST  
M.P. DECREASING



JEFFERSON STREET  
#476 870S

6'x6'

AC  
SERVICE

UG-1-5CUG #6

AEC  
AEZ  
AEB  
B16-A  
N16-A

UG-2-5CUG #6

BEC  
BEZ  
BEB  
B16-B  
N16-B

UG-1A-12CUG #14

AXG  
NAXG  
AXX  
IAXX  
XGP1  
AGBX120  
AGNX120  
SPARE  
SPARE  
SPARE  
SPARE  
SPARE

UG-2A-12CUG #14

BXG  
NBXG  
BXX  
IBXX  
XGP1  
XGP  
BGBX120  
BGNX120  
SPARE  
SPARE  
SPARE  
SPARE  
SPARE

UG-3-3CUG #6  
W/#8 GND

BX120-A  
BX120-B  
NX120  
GND


UG-4-TW. PR. #6

IRCV-1  
IRCV-2

UG-5-TW. PR. #6

IXMT-1  
IXMT-2

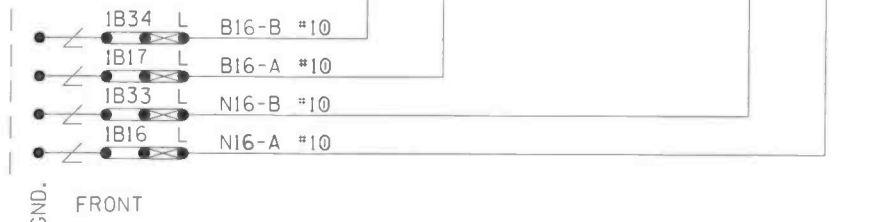
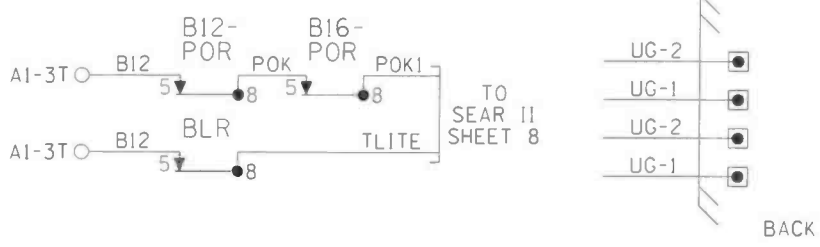
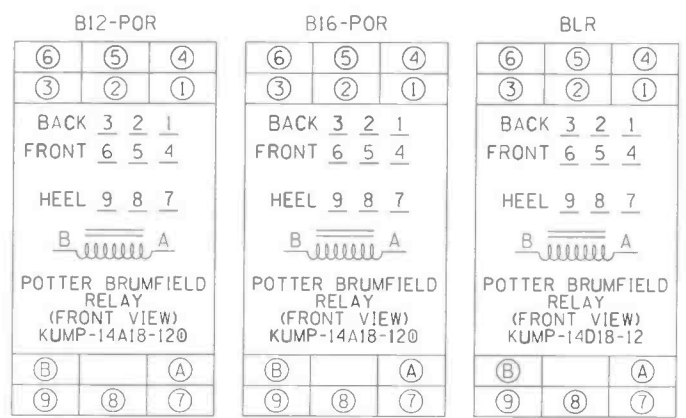
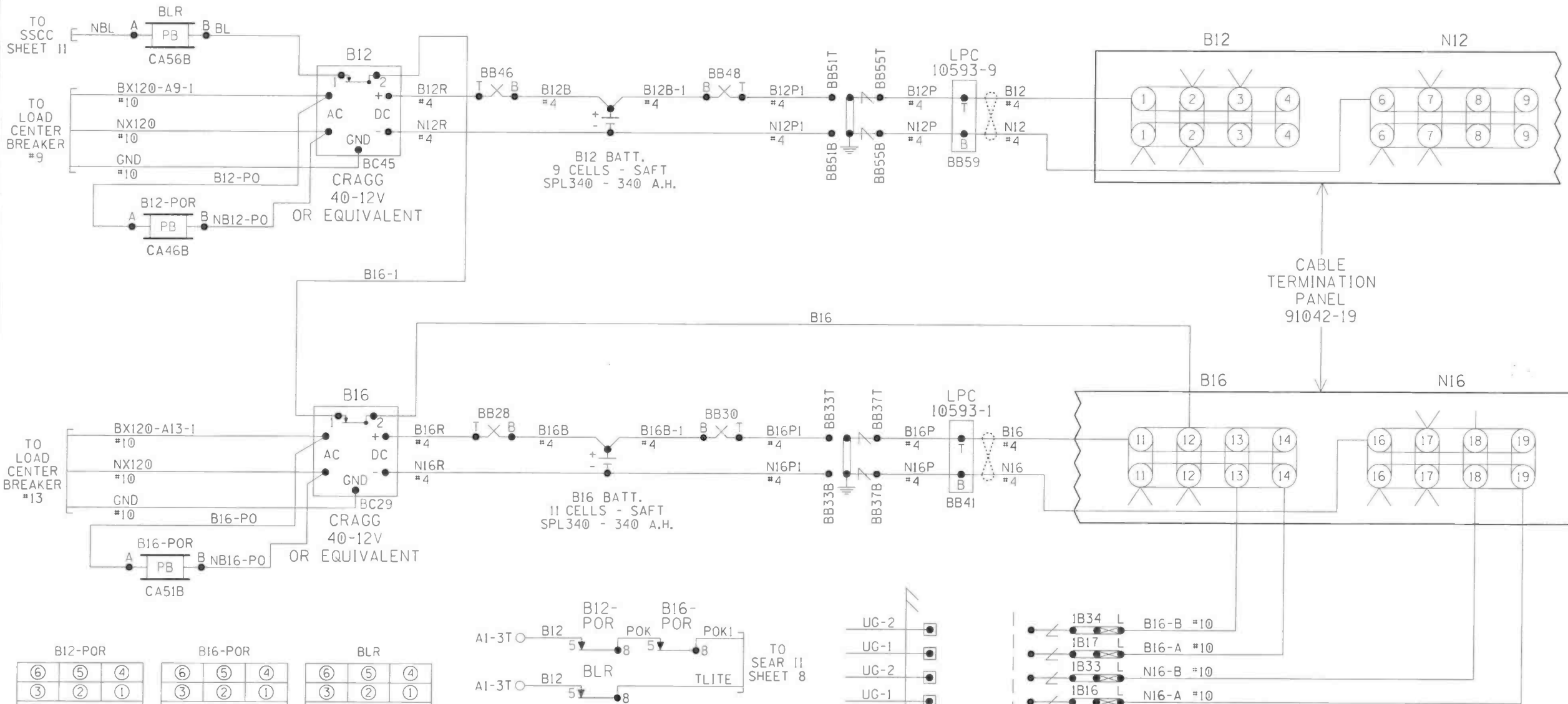
### CABLE PLAN

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>		
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: SP-73.51
PRS 11-02-18			
CHECKED BY:	BLUFFTON, OH		
JMW 01-09-19	FLGS AT JEFFERSON STREET		
IN SERVICE:	LIMA DISTRICT	REV. 1	
CADD or DWG. No.	LMP507350.003	SHEET No.	3

PROPERTY  
NORFOLK SOUTHERN Rwy. CO.







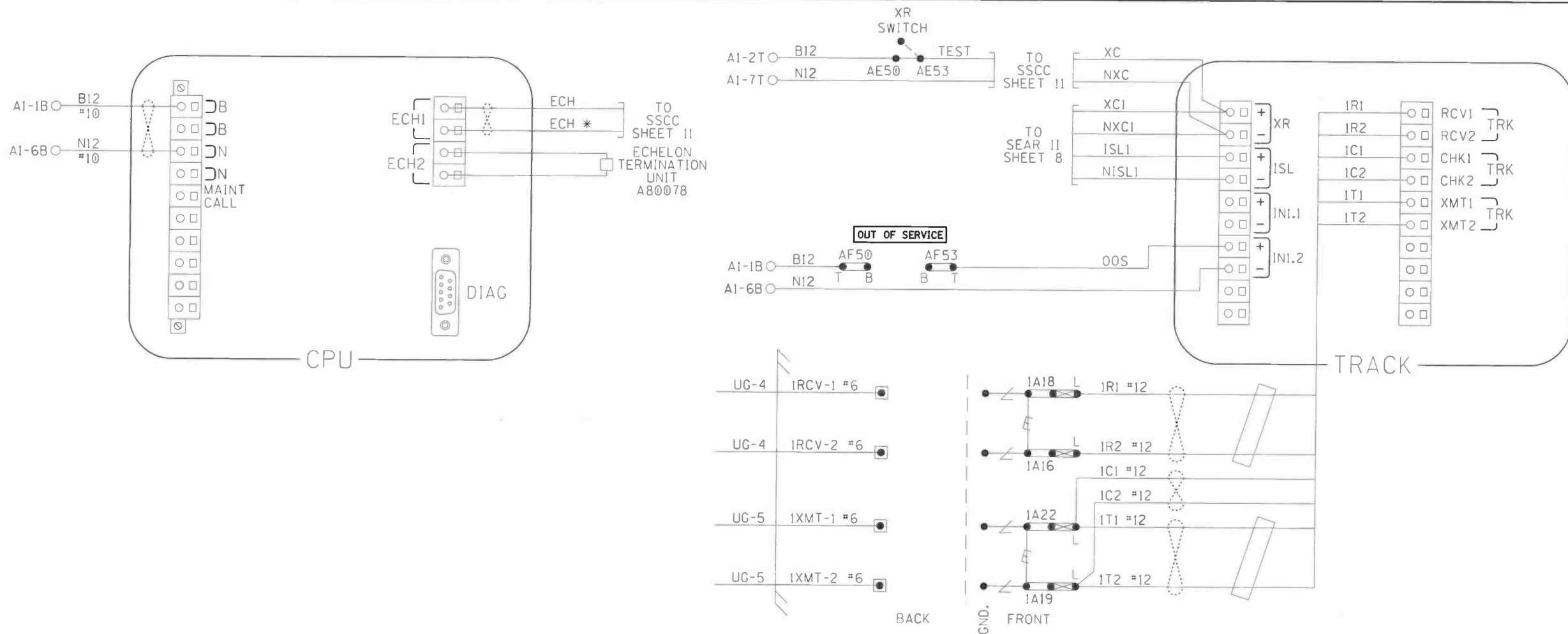
- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
  2. = TWIST

### CHARGERS & BATTERIES

DESIGNED BY:			
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: SP-73.51
PRS 11-02-18			
CHECKED BY:	BLUFFTON, OH		
JMW 01-09-19	FLGS AT JEFFERSON STREET		
IN SERVICE:	LIMA DISTRICT		REV. 1
	CADD or DWG. No. LMP07350.005		SHEET No. 5

PROPERTY  
NORFOLK SOUTHERN RY. CO.





#### NOTES:

1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
2. \* = BELDEN WIRE & CABLE #8461 OR EQUIVALENT.

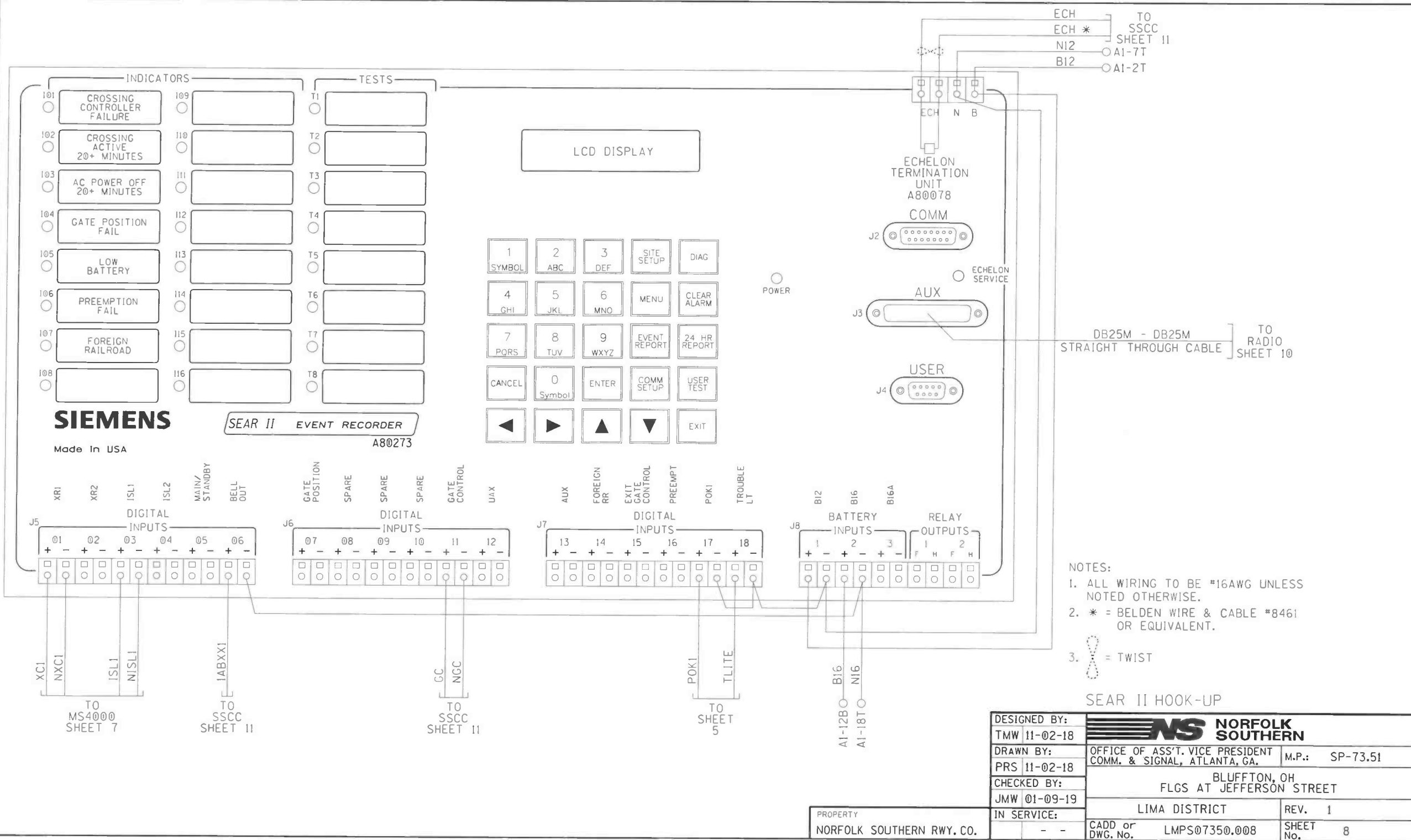
3.  = TWIST

4.  = FERRITE BEAD

#### CONNECTORS FOR CPU & TRACK MODULES

DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>		
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: SP-73.51
PRS 11-02-18			
CHECKED BY:	BLUFFTON, OH FLGS AT JEFFERSON STREET		
JMW 01-09-19			
IN SERVICE:	LIMA DISTRICT		REV. 1
	CADD or DWG. No.	LMP507350.007	SHEET No. 7

PROPERTY  
NORFOLK SOUTHERN Rwy. CO.



SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
SITE NAME	JEFFERSON STREET
MILEPOST	SP-73.51
DOT NUMBER	476-870S
TESTER TYPE	CROSSING
AUTO DST ADJUST	NO
TIMEZONE	OTHER
GMT OFFSET	-00:00
DATE FORMAT	MM-DD-YYYY
TEMP. FORMAT	FAHRENHEIT
INDICATE HOLDOFF (SEC)	0
INDICATE REFRESH (SEC)	60
GEO CTL REFRESH (SEC)	0
SITE ADDRESS (ATCS)	7.550.036.096.03.01
SITE TYPE	COLLECTOR
OFFICE ADDRESS (ATCS)	2.550.01.3875
POLL ID	1
MODE	GEN/ATCS
WAMS XID	DISABLED
OFFICE DEVICE	RAILLOGIC/KENWOOD
OFFICE PORT	AUX
OUR RADIO ID	XXX
DEST RADIO ID	XXX
MAX RETRIES	3
RETRY WAIT(S)	5
NXT PKT DELAY(S)	2
MUTE TIMER(S)	10
USER PORT BAUD	57600
USER PORT DATA BITS	8
USER PORT PARITY	NONE
USER PORT STOP BITS	1
USER PORT FLOW CONTROL	NONE
AUX PORT BAUD	19200
AUX PORT DATA BITS	8
AUX PORT PARITY	NONE
AUX PORT STOP BITS	1
AUX PORT FLOW CONTROL	NONE
COMM. PORT BAUD	9600
COMM. PORT DATA BITS	8
COMM. PORT PARITY	NONE
COMM. PORT STOP BITS	1
COMM. PORT FLOW CONTROL	NONE


CONTROL SYSTEM CONFIGURATION MENU QUESTIONS	
THE QUESTION	SELECT FROM MENU OPTION
RESET NAMES AND MODULES?	YES
RAILROAD NUMBER?	550
CROSSING CONFIGURATION?	STANDARD
NUMBER OF XR INPUTS?	1
NUMBER OF ISL INPUTS?	1
CONSTANT WARNING DEVICE?	OTHER
TOTAL NUMBER OF GCP NODES?	2
CROSSING CONTROLLER 1?	SSCCIIIA
CROSSING CONTROLLER 2?	SSCCIIIA
MAIN / STANDBY?	YES
AUXILIARY TRACKS?	0
ENTRANCE GATES?	2
EXIT GATES?	0
NUMBER OF UAX INPUTS?	0
BATTERY BANKS?	2
LOW BATTERY B12 PERCENTAGE?	(85%-95%)
LOW BATTERY B16 PERCENTAGE?	(85%-95%)
LOW BATTERY 3 PERCENTAGE?	(85%-95%)
PREEMPTION?	NO
VHF COMMUNICATOR?	NO
ILOD MODULES?	0
FOREIGN RAILROAD?	NO
CROSSING ACTIVE ALARM TIME (MIN)?	(1-60)
POWER OUT ALARM TIME (MIN)?	(1-60)

HEARBEAT INTERVAL SETTINGS	
TYPE	OFFSET
HOUR	06
MIN	00
SEC	00

PROGRAM MENU QUESTIONS	PROGRAM
EDIT DIGITAL INPUTS	NO
EDIT BATTERIES	NO
EDIT RELAYS	NO
EDIT INDICATOR LEDS	NO
EDIT TEST LEDS	NO
EDIT IL0D SENSORS	NO
EDIT VHF SETTINGS	NO

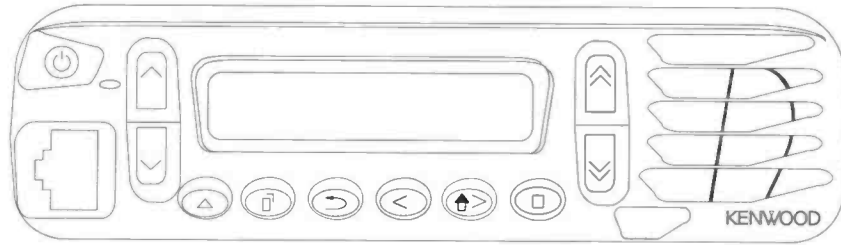
VERIFY THE BATTERY SUPPLY VOLTAGES	
B12 BATTERY VOLTAGE AT INPUT DC1	VOLT 1: .
B16 BATTERY VOLTAGE AT INPUT DC2	VOLT 2: .

SEAR II PROGRAMMING

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>		
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT	M.P.:	SP-73.51
PRS 11-02-18	COMM. & SIGNAL, ATLANTA, GA.	BLUFFTON, OH FLGS AT JEFFERSON STREET	
CHECKED BY:			
JMW 01-09-19			
IN SERVICE:	LIMA DISTRICT	REV.	1
- -	CADD or DWG. No.	LMP507350.009	SHEET No. 9

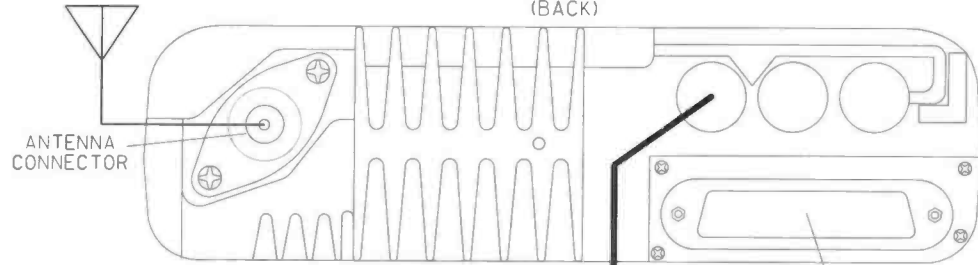
PROPERTY  
NORFOLK SOUTHERN Rwy. CO.

(FRONT)



KENWOOD RADIO NX-700H  
OR EQUIVALENT

(BACK)



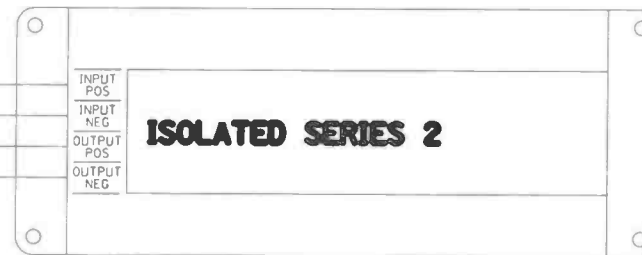
BA5T

DB25M - DB25M  
STRAIGHT THROUGH CABLE

TO  
SEAR II  
SHEET 8

CABLE - KENWOOD  
P/N E30-7520-15


A1-2B ○ B12  
A1-7B ○ N12  
B12  
N12



BA5B

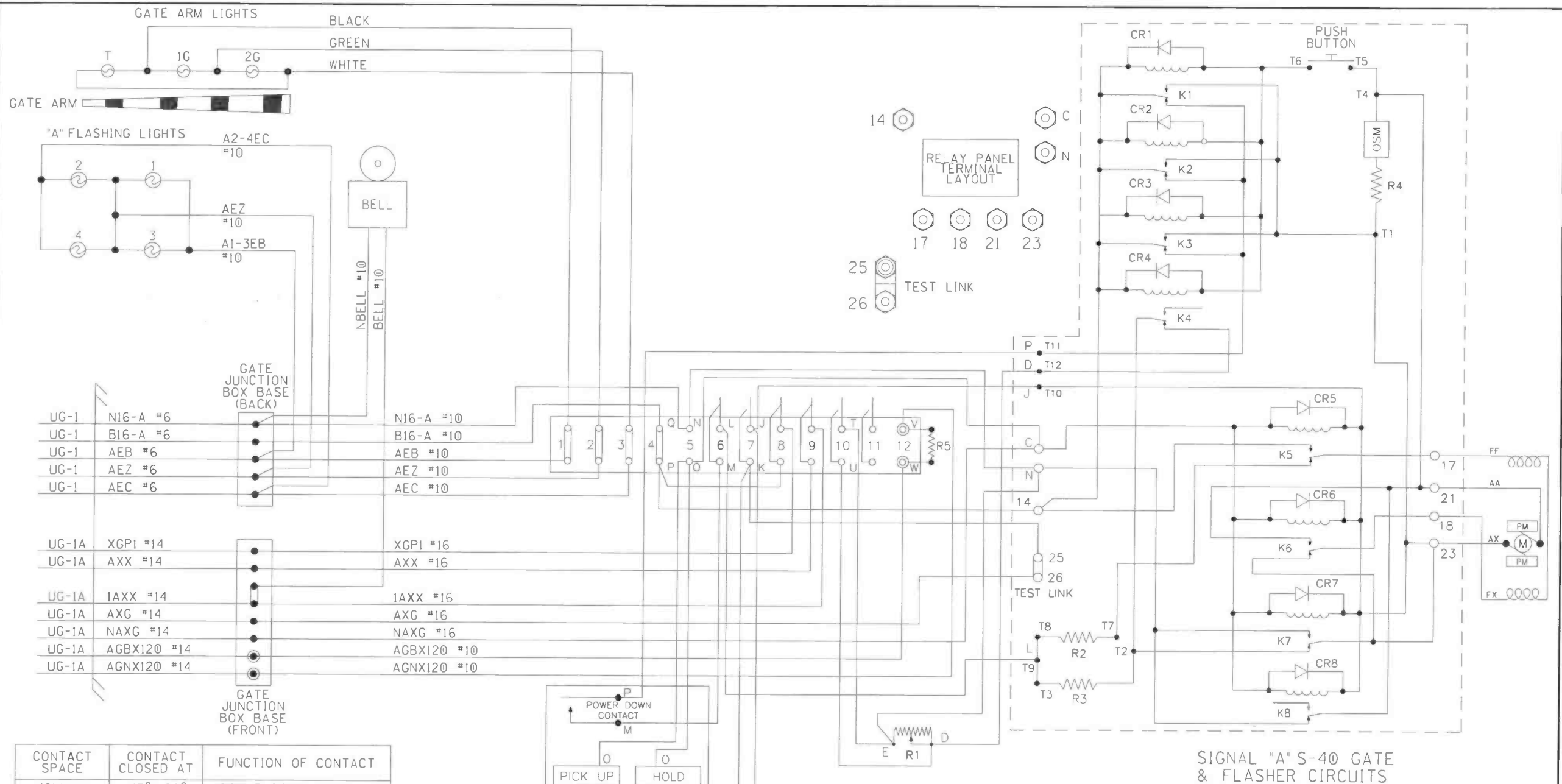
NOTE:  
1. ALL WIRING TO BE #10AWG UNLESS  
NOTED OTHERWISE.

BACKHAUL EQUIPMENT

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>		
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: SP-73.51
PRS 11-02-18			
CHECKED BY:	BLUFFTON, OH FLGS AT JEFFERSON STREET		
JMW 01-09-19			
IN SERVICE:	LIMA DISTRICT		REV. 1
	CADD or DWG. No.	LMP507350.010	SHEET No. 10

PROPERTY  
NORFOLK SOUTHERN Rwy. CO.

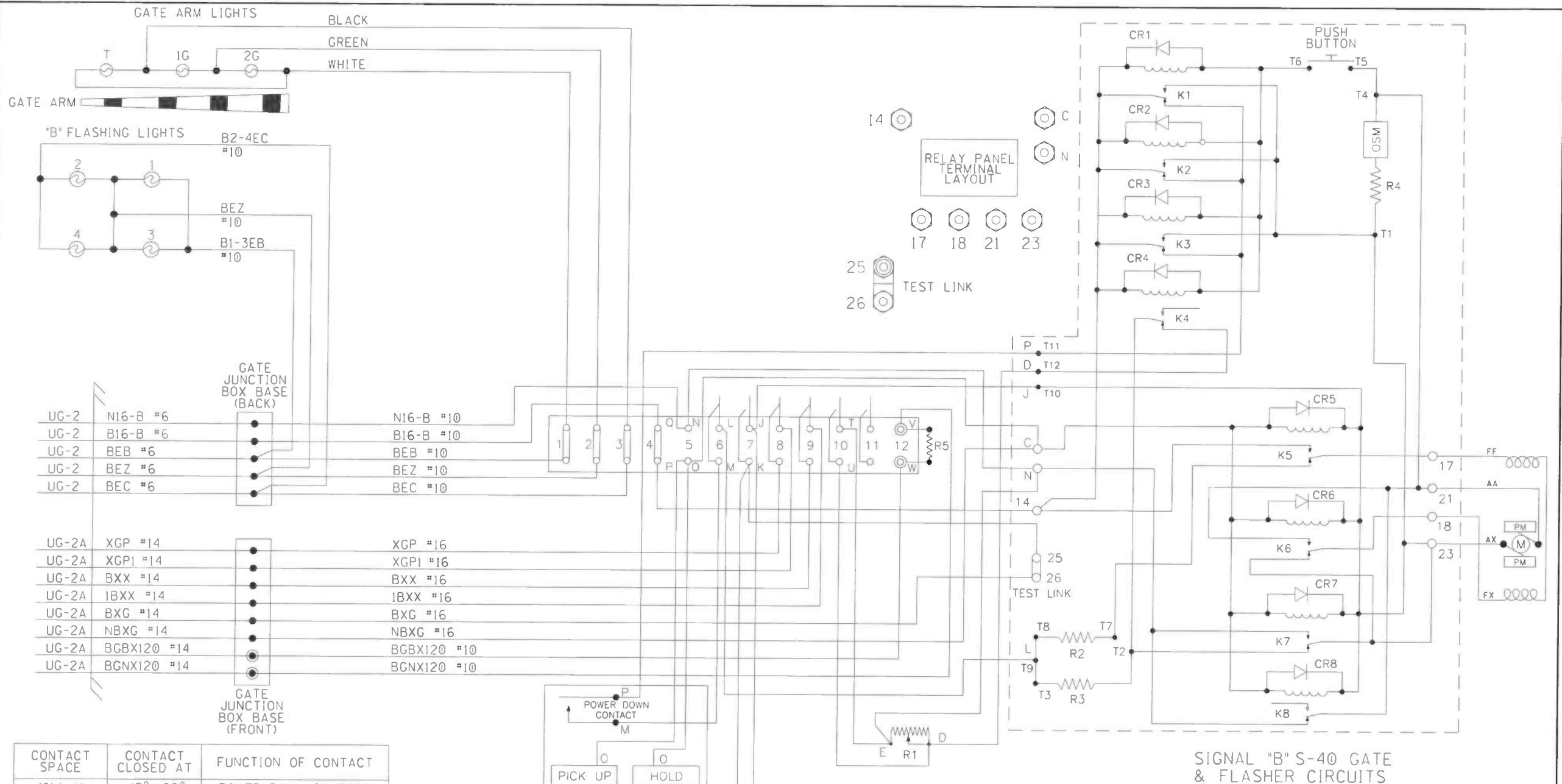




SIGNAL "A" S-40 GATE & FLASHER CIRCUITS

DESIGNED BY: TMW 11-02-18	<b>NS NORFOLK SOUTHERN</b>	
DRAWN BY: PRS 11-02-18	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: SP-73.51
CHECKED BY: JMW 01-09-19	BLUFFTON, OH FLGS AT JEFFERSON STREET	
IN SERVICE:	LIMA DISTRICT	REV. 1
PROPERTY NORFOLK SOUTHERN Rwy. CO.	CADD or DWG. No. LMP07350.012	SHEET No. 12






CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45° - 90°	POWER DOWN CONTROL
(7) J-K	0° - 89°	POWER UP CONTROL
(8)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION

R1 - DOWN SNUB RESISTOR, ADJ.  
 R2 - POWER DOWN RATE RESISTOR  
 R3 - POWER DOWN LIMIT RESISTOR  
 R4 - OSM SNUB RESISTOR  
 R5 - DEFROSTER  
 K1-8 - GATE & MAINT. RELAYS  
 OSM - OVERSPEED MODULE

SIGNAL "B" S-40 GATE & FLASHER CIRCUITS

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>		
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		
PRS 11-02-18			
CHECKED BY:	BLUFFTON, OH		
JMW 01-09-19	FLGS AT JEFFERSON STREET		
IN SERVICE:	LIMA DISTRICT		REV. 1
	CADD or DWG. No.	LMP507350.013	SHEET No. 13

PROPERTY  
 NORFOLK SOUTHERN Rwy. CO.




LEFT TWO FRONT ROWS TERMINAL BOARD 1

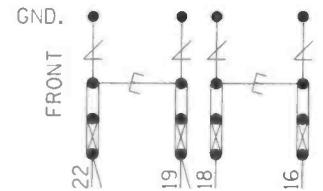
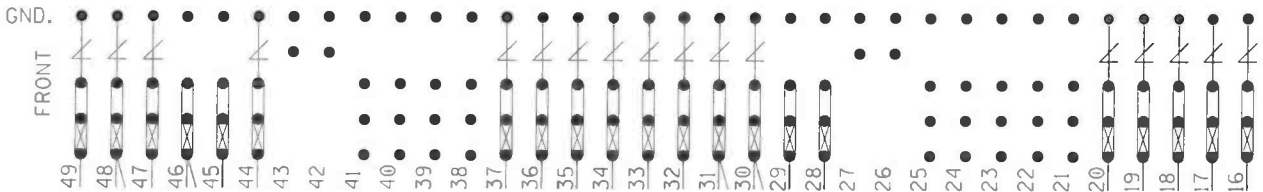
"1A"

"1B"


SEE FARADAY SHIELD SHOP DRAWING DETAIL FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

NOTES:

1.  = HEAVY DUTY EQUALIZER (022700-1X)
2.  = ERICO LIGHTNING ARRESTER (EPD2050F)
3. GND. ● = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
4.  = TEST LINK
5. INSTALL TEST LINKS ON ALL TRACK WIRES AND ON ALL LOW VOLTAGE UNDERGROUND CABLE TERMINATIONS.



BACKBOARD 1A & 1B

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>		
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: SP-73.51
PRS 11-02-18			
CHECKED BY:	BLUFFTON, OH FLGS AT JEFFERSON STREET		
JMW 01-09-19			
IN SERVICE:	LIMA DISTRICT	REV.	1
	CADD or DWG. No. LMP507350.014	SHEET No.	14

PROPERTY  
NORFOLK SOUTHERN Rwy. CO.

REAR VIEW OF LEFT TWO ROWS TERMINAL BOARD I  
"1B"


SEE FARADAY SHIELD SHOP DRAWING DETAIL  
FOR HOW THIS PORTION OF THE FARADAY  
SHIELD IS PREDRILLED. ONLY INSTALL AND  
USE THE TERMINALS NEEDED.

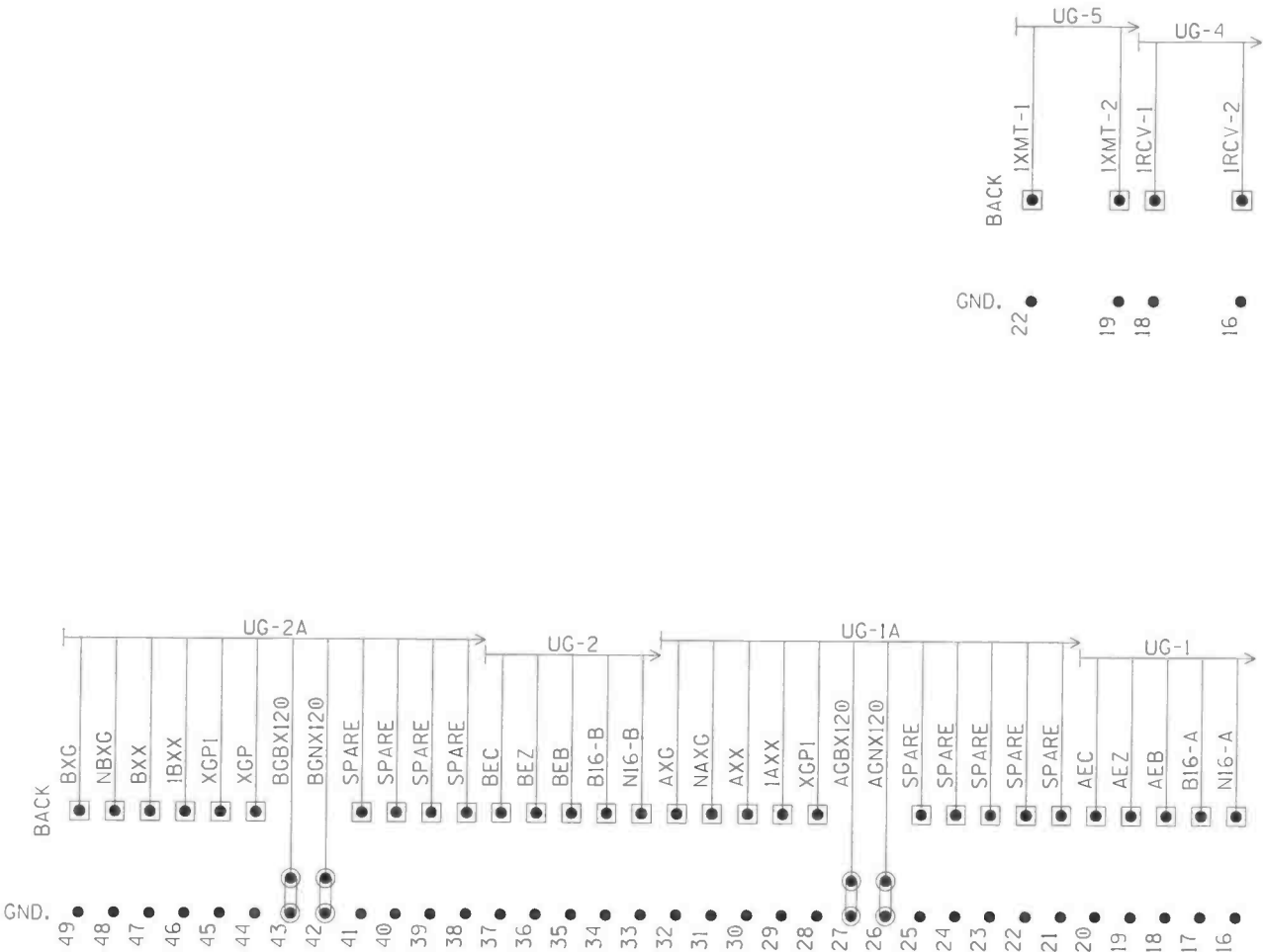
NOTES:

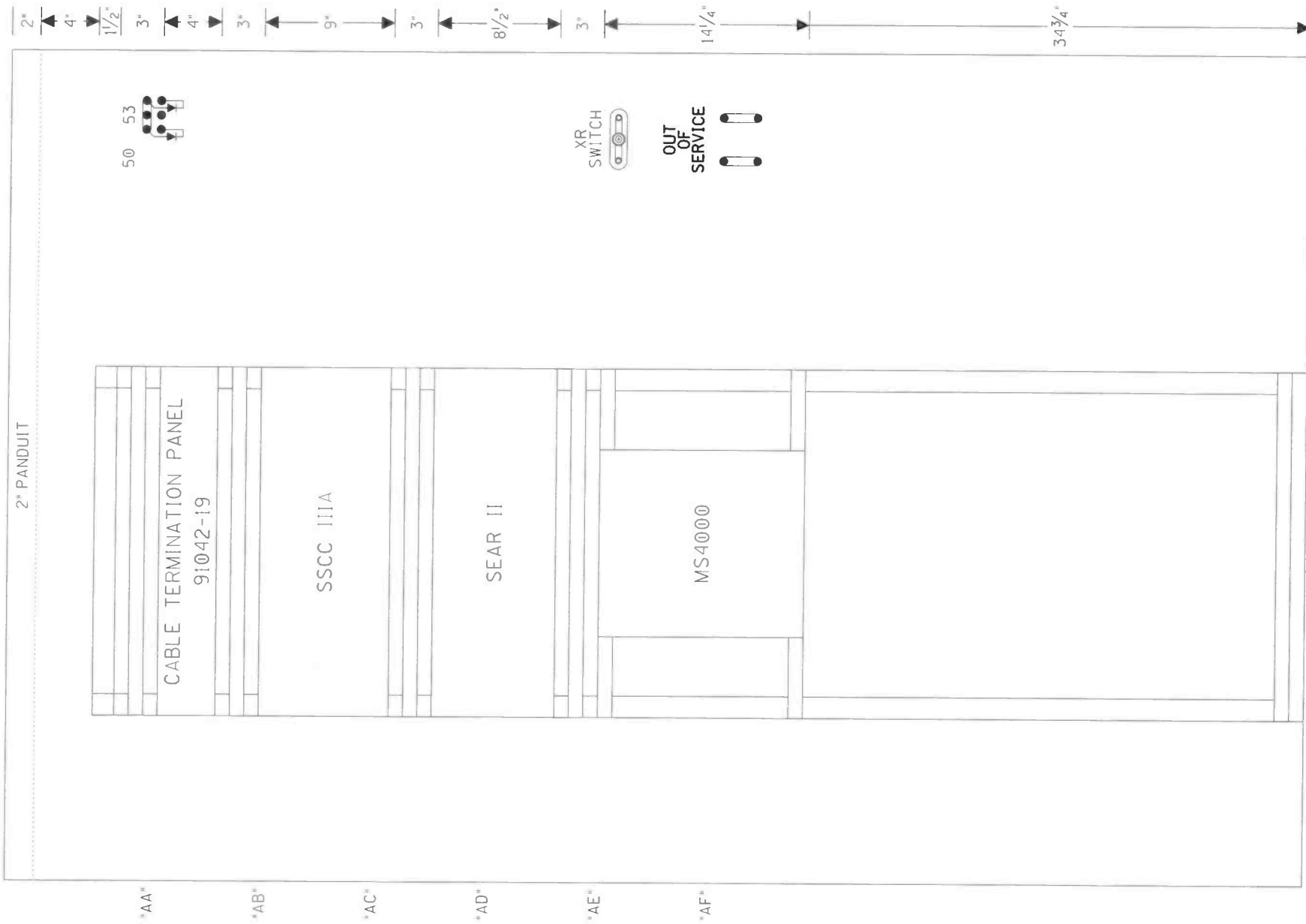
1. GND. ● = THROUGH GROUND POST ON EACH  
TERMINAL BLOCK TO FARADAY SHIELD
2. \* = TEST LINKS MUST BE OPENED
3. ● = INSULATED NUTS TO BE USED ON  
ALL 120VAC AND ABOVE TERMINALS

PROPERTY  
NORFOLK SOUTHERN Rwy. CO.


REAR BACKBOARD 1A & 1B

DESIGNED BY: TMW 11-02-18	 <b>NORFOLK SOUTHERN</b>	
DRAWN BY: PRS 11-02-18	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: SP-73.51
CHECKED BY: JMW 01-09-19	BLUFFTON, OH FLGS AT JEFFERSON STREET	
IN SERVICE:	LIMA DISTRICT	REV. 1
	CADD or DWG. No. LMP507350.015	SHEET No. 15

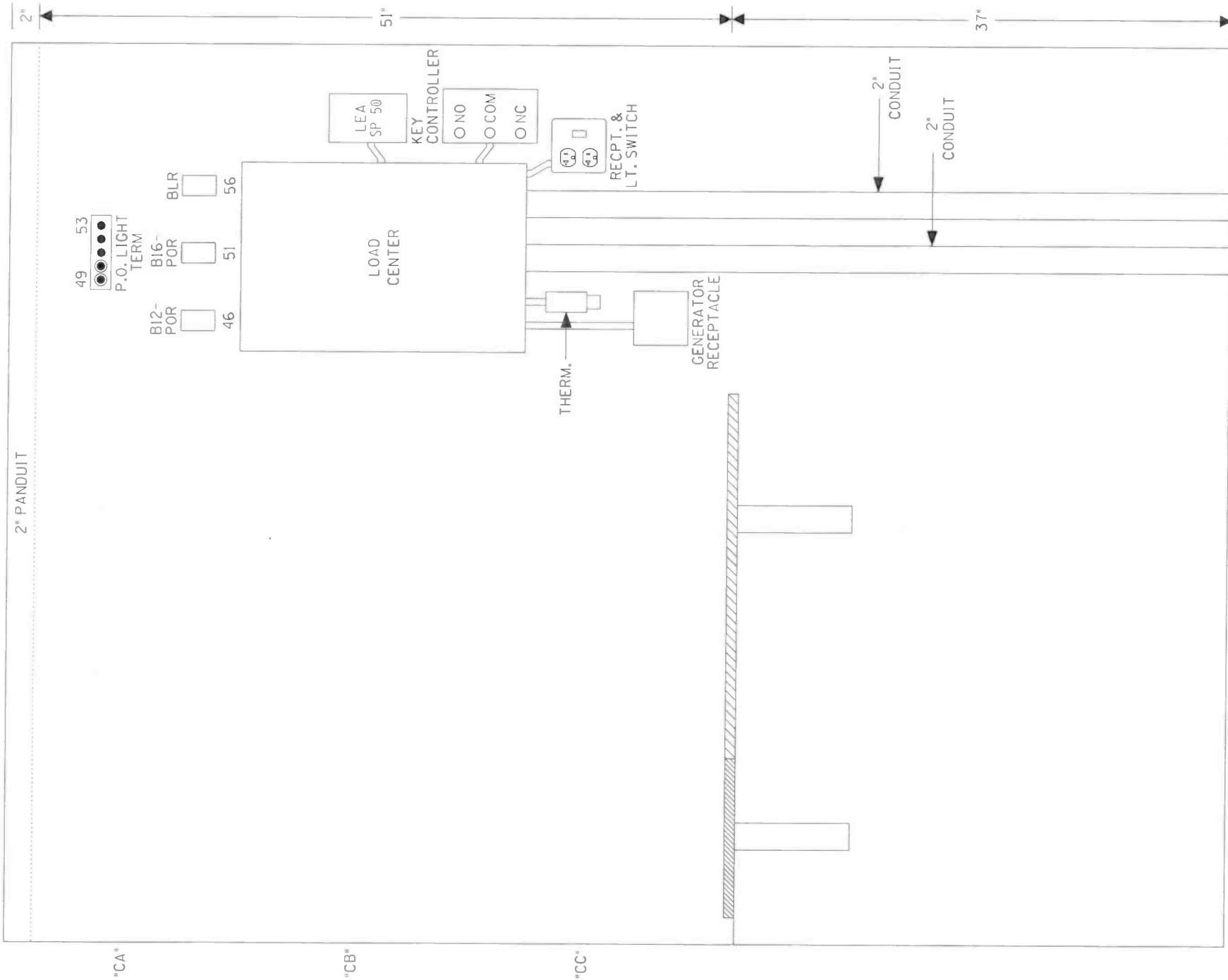





SIDE A LAYOUT & RACK PLACEMENT

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>		
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: SP-73.51
PRS 11-02-18	BLUFFTON, OH FLGS AT JEFFERSON STREET		
CHECKED BY:			
JMW 01-09-19	LIMA DISTRICT		REV. 1
IN SERVICE:	CADD or DWG. No. LMP507350.016		SHEET No. 16

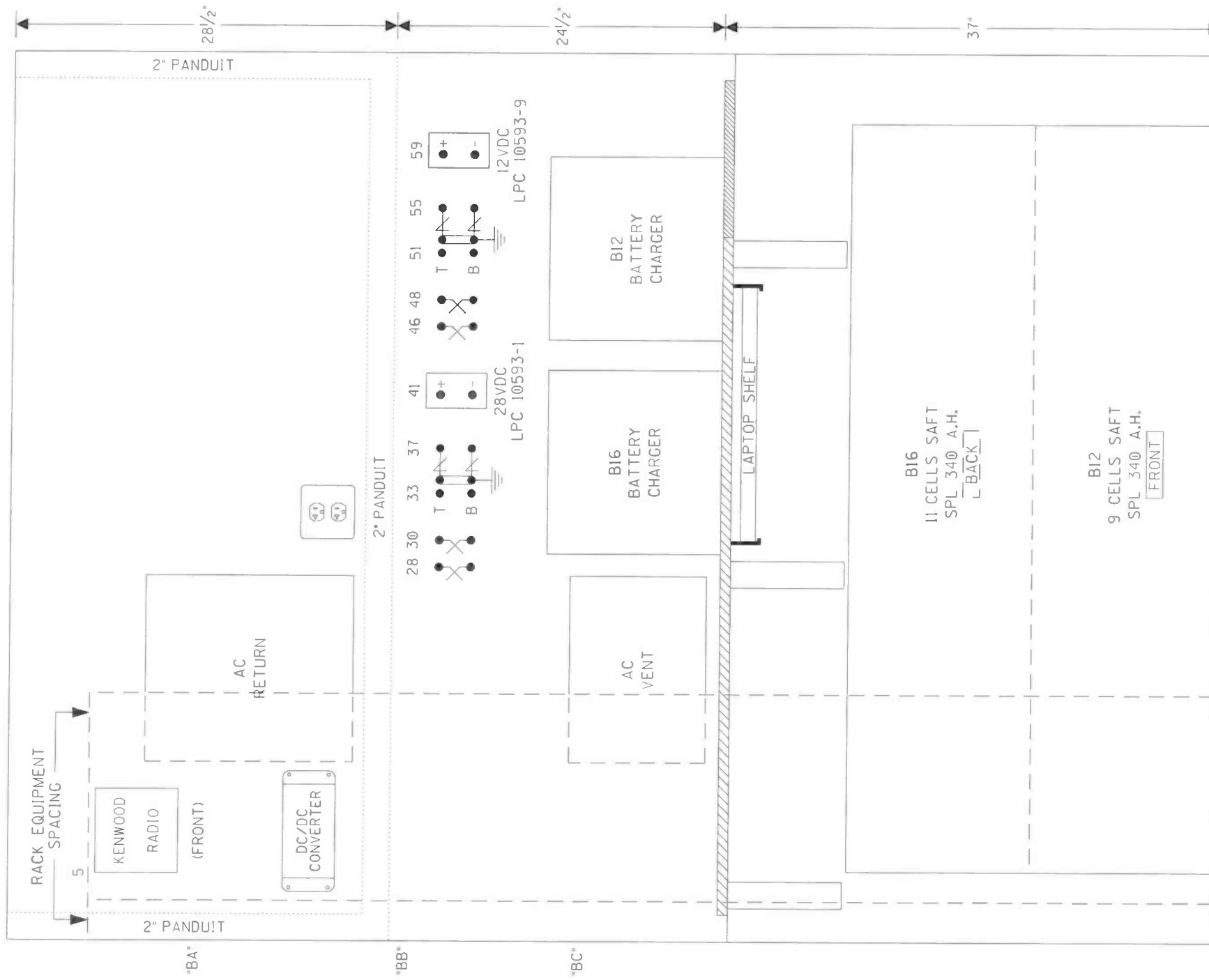
PROPERTY  
NORFOLK SOUTHERN Rwy. CO.



SIDE C LAYOUT

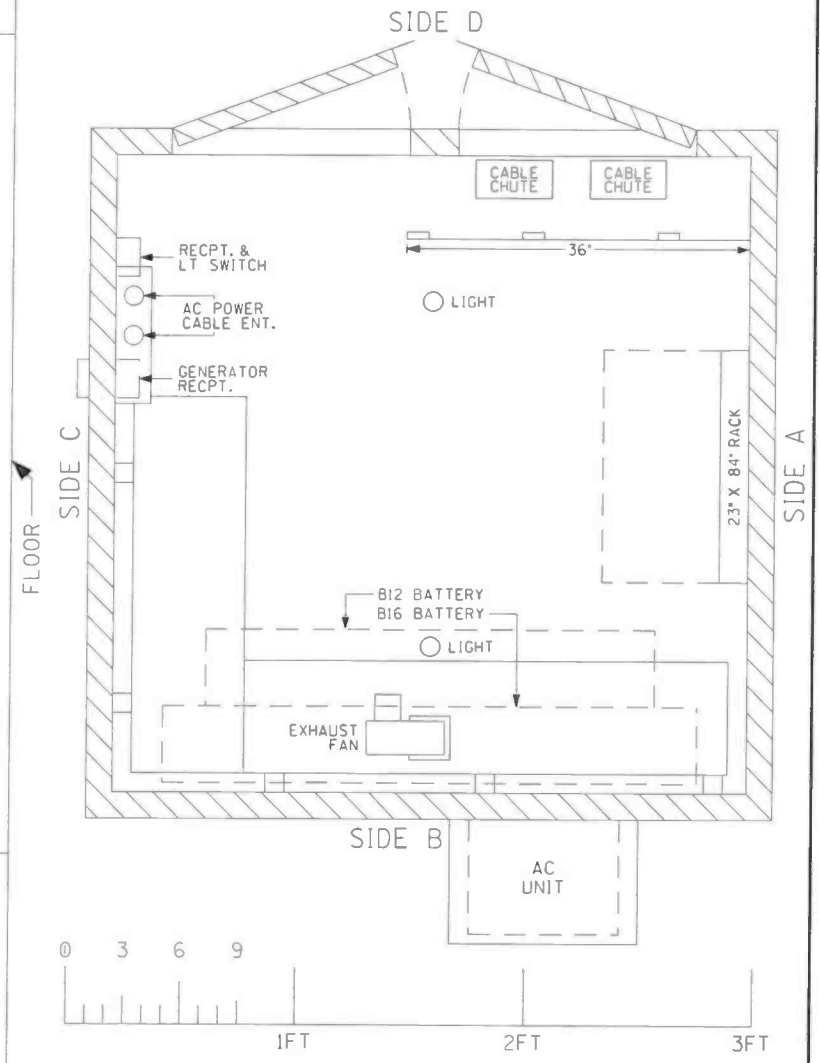
DESIGNED BY:		 <b>NORFOLK SOUTHERN</b>	
TMW	11-02-18		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT	M.P.: SP-73.51
PRS	11-02-18	COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY:		BLUFFTON, OH	
JMW	01-09-19	FLGS AT JEFFERSON STREET	
IN SERVICE:		LIMA DISTRICT	REV. 1
	- -	CADD or DWG. No. LMP507350.017	SHEET No. 17

PROPERTY  
NORFOLK SOUTHERN Rwy. CO.




# \*TOP VIEW

6'X6' HOUSE  
(INSULATED)  
\* = 1/2" SCALE



SIDE B LAYOUT & TOP VIEW

DESIGNED BY:	 <b>NORFOLK SOUTHERN</b>		
TMW 11-02-18			
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: SP-73.51
PRS 11-02-18			
CHECKED BY:	BLUFFTON, OH FLGS AT JEFFERSON STREET		
JMW 01-09-19			
IN SERVICE:	LIMA DISTRICT	REV. 1	
	CADD or DWG. No. LMP07350.018	SHEET No. 18	

PROPERTY  
NORFOLK SOUTHERN Rwy. CO.

**Norfolk Southern Railway Company**

Lake Division

Bluffton, OH

ESTIMATE FOR CROSSING IMPROVEMENT (ASPHALT SURFACE)

Existing Crossing

DOT Number: 476870S

MP: SP-73.51

1 TRACK(S);

60 CROSSING LENGTH

MATERIAL	QUANTITY	UNIT	UNIT COST	AMOUNT
SURFACE MATERIAL (Rubber Flangeways )	64	TRK. FT.	75.00	4,800
ASPHALT (BY CONTRACTOR)	114	TONS	140.00	15,952
RAIL, 132-LB RE	160	LIN FT.	23.00	3,680
TRANSITION RAIL	0	EA.	1,140.00	0
INSULATED JOINTS	4	EA.	500.00	2,000
RAIL ANCHORS	240	EA.	2.00	480
SPIKES	3.0	KEG	115.00	345
TIE PLATES	120	EA.	12.00	1,440
CROSSTIES (10')	0	EA.	75.00	0
CROSSTIES (GRADE 5)	60	EA.	55.00	3,300
BALLAST AND GRAVEL	113	TONS	35.00	3,955
GEOTEXTILE	80	LIN FT.	7.00	560
THERMITE WELDS	8	EA.	550.00	4,400
ASPHALT DISPOSAL	1	LUMPS	1,000.00	1,000
TOTAL (INCLUDES 5% INVENTORY OR TAX ADDITIVES)				46,665
<b>LABOR</b>				
REMOVE EXISTING CROSSING	40	MAN HOURS	25.00	1,000
REHABILITATE TRK. STRUCTURE	70	MAN HOURS	25.00	1,750
INSTALL NEW CROSSING	70	MAN HOURS	25.00	1,750
TOTAL				4,500
<b>OTHER ITEMS</b>				
Rail	-3.1	TON	0	0
Scrap	-1.0	TON	0	0
				0
COMPOSITE LABOR ADDITIVE (185.81)				8,362
EQUIPMENT RENTAL & TRANSPORTATION				2,925
PRELIMINARY & CONSTRUCTION ENGINEERING SERVICES AND INVOICE				3,123
<b>TOTAL (TO BE BILLED TO PROJECT SPONSOR)</b>				<b>\$65,575</b>

ESTIMATE BASED ON TRAFFIC CONTROL AND BARRICADES BEING PROVIDED BY OTHERS, AND FULL CLOSURE OF ROAD. PAVING BY CONTRACTOR.

This estimate is valid for one (1) year after the date of estimate. If work is not performed within this time frame the Railway may revise the estimate to include work not previously deemed necessary.

This estimate shall not be considered as an approval for a temporary crossing. Information provided is an estimation of the anticipated cost for the construction of the crossing only. All temporary construction crossings require a separate approval from Norfolk Southern's General Manager and Division Superintendent, a separate stand alone temporary construction crossing agreement with associated real estate fees, and all required insurances as noted in the in the temporary construction crossing agreement.

OFFICE OF CHIEF ENGINEER, BRIDGES AND STRUCTURES - ATLANTA, GEORGIA

Wednesday, January 17, 2018

File: CX1113373



# OHIO RAIL DEVELOPMENT COMMISSION

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

John R. Kasich, Governor • James G. Bradley, Chairman

October 30, 2018

Kurt Young  
Administrator, Grade Crossing Program  
Norfolk Southern Corp., Office 7014  
1200 Peachtree St. NE, Box 123  
Atlanta, GA 30309

RE: Authorization for Plans and Estimates for Grade Crossing Warning Device Upgrade  
Allen County, SR 103-1.62, Jefferson St.  
DOT# 476-870S; PID# 107610

Dear Mr. Young:

A diagnostic review was held at the above grade crossing on 5/8/2018. The crossing has been recommended for an upgrade from existing automatic flashing lights to automatic flashing lights and gates. In addition, the project is to include widening the roadway surface 10 feet on the north side of the roadway. This will connect a planned extension of pedestrian and bikeway facilities on either side of the railroad crossing. The site layout should show new pavement abutting the roadway for the full distance between the two NS railroad right-of-way lines on either side of the tracks.

Norfolk Southern Corp. is authorized to proceed with the design, site plans and cost estimates (PE) 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 ORDC is not requesting that the PUCO issue an Order at this time. When the ORDC receives the PE it will be evaluated and a construction-only Order will be requested from PUCO. Please submit the PE to ORDC within 90 days of receipt of this letter.

The diagnostic review form is attached. Please note any recommendations (page 5), if any, made by the team with regard to requirements for this location. Any roadway work necessary for MUTCD compliance should be incorporated into the PE and such costs will flow through the railroad reimbursement process.

The ORDC Project Manager for this project is Don Damron. I can be reached at 614-466-2509 (office), or 614-917-8466 (cell), or [don.damron@dot.ohio.gov](mailto:don.damron@dot.ohio.gov), if you have any questions.

Sincerely,

Donald J. Damron  
Project Manager

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

Attachments: Diagnostic Review Team Survey form dated 5/8/2018  
ORDC Letter Agreement dated 7/31/2018



[www.rail.ohio.gov](http://www.rail.ohio.gov)

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY





# OHIO RAIL DEVELOPMENT COMMISSION

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

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

July 31, 2018

Norfolk Southern Railway Company  
Mr. Stephen Klinger  
Administrator Highway Grade Crossing Improvements  
1200 Peachtree Street  
Atlanta, GA 30309-3597

RECEIVED  
ORDC  
2018 SEP 13 PM 2:42

Subject: Grade Crossing Warning Device Improvements, PID 107610  
Allen County, SR 103-1.62, Jefferson Street, DOT# 476870S

Dear Mr. Klinger:

A diagnostic review was conducted at the subject grade crossings on 5/8/2018. As a result of the review, the devices will be upgraded to automatic flashing lights and roadway gates. In addition, the surface will be extended on the north side.

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 R. Dietrich  
Executive Director



[www.rail.ohio.gov](http://www.rail.ohio.gov)

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

Norfolk Southern:

By: Gregory R. Constock

Title: Regional VP

Date: 8/28/18

ALL SR 103 Jefferson St NS PID 107610 476870S

# OHIO RAIL DEVELOPMENT COMMISSION



Ohio Rail Development Commission  
Mail Stop 3140, 1980 W. Broad Street  
Columbus, OH 43223

## Reason for Survey:

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

Constituent

Date: 5/8/2018

## Location Data

Street or Road Name: Jefferson Street			
Route/Road Number (i.e. Twp., Co., SR or US) SR 103-1.62		US DOT No.: 476870S	
County: ALL	Township: p:	City: (In or Near) City of Bluffton	
Railroad Name: Norfolk Southern	Railroad Division: Lake	Branch/Line Name: Lima Dist.	
Nearest RR Timetable Station: Bluffton		RR Milepost: 73.51	

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

	Initial Information (from database)	Revised
Number & dates of vehicle crashes in previous 5 years	0	
Number & dates of pedestrian/bicycle crashes in previous 5 years	0	
Hazard Ranking	2708 Date Run: 12/12/2017	

## On-Site Review Team

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

1. Cathy Stout ORDC 614 644 0313 catherine.stout@dot.ohio.gov.
2. Stephen Klinger NS 404-617-5450 stephen.klinger@nscorp.com
3. Jesse Blackburn Village of Bluffton 419-358-2066 blackburnj@bluffton-ohio.com
4. Shane Hertel NS 419-889-7028
5. Tyrone McCroskey NS 419-975-2254 TYRONE.MCCROSKEY@NSCORP.COM
6. Kristopher Osterhage ODOT 419-999-6872 Kristopher.osterhage@dot.ohio.gov
7. Lincoln G. Harrison PUCCO 419-204-7337 Lincoln.Harrison@PUCCO.ohio.gov
8. Derrick Schierloh ODOT 419-999-6857 derrick.schierloh@dot.ohio.gov
9. \_\_\_\_\_



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	
'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	worn / poor
Dynamic Envelope Markings (condition?)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Illumination	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
'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 – stand alone	<input type="checkbox"/> Yes <input type="checkbox"/> No	2 x bucks on FL
Crossbucks – assembly with Stop	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Crossbucks – assembly with Yield	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4 each mast
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/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 checked="" type="checkbox"/> No	

Railroad Data		
Type of Service: <input type="checkbox"/> Freight <input type="checkbox"/> Passenger/Amtrak <input type="checkbox"/> Light Rail <input type="checkbox"/> Trolley or Streetcar <input type="checkbox"/> Commuter Rail		
Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	2	
< 1 per day		
Day thru trains	1	
Night thru trains	1	
Daytime switching movements		
Nighttime switching movements		
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks		
Maximum train speed	40	10
Typical train speed	40	10
Amtrak	NO	
If multiple tracks, can two trains occupy crossing at the same time? <input type="checkbox"/> Yes <input type="checkbox"/> No Can one train block the motorists' view of another train at crossing? <input type="checkbox"/> Yes (Explain below) <input type="checkbox"/> No Can one or more tracks be eliminated through the crossing? <input type="checkbox"/> Yes <input type="checkbox"/> No		

Are 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: City of Bluffton	
Roadway Characteristics	Initial Information (from database)
Average daily traffic	5314 (2017)
Highway paved	X 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 (paved/travelled way): 25 ft.	
Number of highway lanes	2
Urban or Rural	Rural
Vehicle Speed: 35 MPH	
School Bus Operation: <input type="checkbox"/> No X Yes 2 Amount 4	
Hazardous Materials Trucks: <input type="checkbox"/> No X Yes .04 Amount	
Shoulders: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is the shoulder surfaced? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Shoulder width: _____ ft.	
Is there existing guardrail along roadway in crossing vicinity? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Quadrant _____ 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 _____ 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
Is there a nearby intersection that could cause queuing over the crossing? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
If yes, Distance _____	
Is this intersection signalized? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Are the signals currently interconnected with the existing crossing warning devices? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Is there a 'Do not Stop on Track' sign? <input type="checkbox"/> No <input type="checkbox"/> 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? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
If yes, Improvement type Bridge April 2019 Lead Agency ODOT Timeline/completion 2019	

Proposed -  
 Pathway 8ft to Commerce lane - unfunded

Pedestrian & Bicycle Data	
Regular pedestrian usage: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	Volumes: Village will get Count
Is sidewalk present? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	Quadrants:
Does crossing surface accommodate pedestrians? <input type="checkbox"/> No <input type="checkbox"/> Yes	If no, which side is paved? _____
Both sides of roadway? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Pedestrian generators in close proximity (e.g. schools, sports/entertainment venues)? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Comments: Bike path Daycare walks to pool avoids this xing but would use if there were sidewalks.	
Regular bicycle usage: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
<input checked="" type="checkbox"/> Roadway <input type="checkbox"/> Dedicated Lane (on street) <input type="checkbox"/> Dedicated Path (off street) <input type="checkbox"/> Shared Use (pedestrian/bicycle) Path	



**Type of Development**

- ☐ Open Space      ☐ Institutional  
☐ Industrial      ☒ Commercial  
☒ Residential

Location of nearby schools: \_\_\_\_\_

**Utility Information**Is commercial power available? ☐ No ☒ YesUtility Provider (Company Name) AEP

Phone Number \_\_\_\_\_

Nearest Available Power Source \_\_\_\_\_

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

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

Comments:

Pipeline**Sight Preview**

REFER TO THE TABLES ATTACHED

If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) ☒ Yes ☐ NoIs stopping sight distance adequate? (See Table 2) ☒ Yes ☐ No If no, deficient approach(es) \_\_\_\_\_

When considering recommendations for bicycle treatments:

Bicycle sight distance adequate? ☐ Yes ☐ No If no, deficient approach(es) \_\_\_\_\_

When considering recommendations for pedestrian treatments:

Pedestrian sight distance adequate? ☐ Yes ☐ No If no, deficient approach(es) \_\_\_\_\_☐ Bikes must use sidewalkFuture plans/transportation plans for pedestrian or bicycle routes? ☐ No ☐ Yes

Comments:

**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:

RR 50ft est 40-50 est

Culverts / Drainage / Ballast Conditions:

Roadway and/or Sidewalks:

N/A

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

Yes overlapping circuitry

Environmental:

No

Other:

**Surface**Surface review form completed: ☒ No ☐ Yes

new surface.

**Additional Comments**

Use this space as needed for additional comments and/or observations:

History of accidents in curve of roadway (vehicular)

Frequent replacement of flasher assembly due to crashes.

Flasher is too close to roadway/travelled way.

**Potential Closure**Is it the consensus of the Diagnostic Review Team that this is a potential closure project: ☒ No ☐ Yes

Explain reasons:

*Main connector to downtown.***Diagnostic Team Recommendations**

Quadrants Needed

☒ **Install/upgrade active devices**☐ Automatic Flashing Lights (AFLS)☐ AFLS / Cants☒ AFLS / Gates☐ AFLS / Gates / Cants☐ Bells / number☐ Upgrade circuitry / type☐ Sidelights☐ Guardrail Needed☐ Install/Replace curb☒ Bungalow placement & offset from rail & highway☐ Other (define)*30 ft off roadway*

Comments:

*Edgelines - pavement black - prevent running off surface.**All new equipment*☐ Install/upgrade traffic signal preemption☐ **No improvements needed**☐ Other (define)**PEDESTRIAN/BICYCLE Treatments (additional, not included above)**☒ Crossing Surface (specify)*North side wider for peds.*☐ Sidewalk (specify)☐ Detectable warning surfaces☐ LOOK Sign (R15-8)☐ Stop lines☐ Illumination☐ Dynamic envelop markings☐ Channelization☐ Path delineation☐ Fencing/barriers☐ Other

Comments:

*extend surface 10ft on north side to connect peds***Acknowledgement of Recommendations** (each entity represented at the diagnostic must have at least one signature/initial acknowledgement):*CMS**[Signature]**KO**JRB**[Signature]*



**Field Dimensions**

The diagram illustrates a cross-section of a road with a central vertical line. Horizontal lines represent the boundaries of different road sections: Sidewalk, Parkway, and Roadway. Dashed vertical arrows indicate measurement points, with horizontal lines provided for recording values. A box labeled "Show North Direction" is located in the top right corner.

Sidewalk

Parkway

Roadway

Roadway

Parkway

Sidewalk

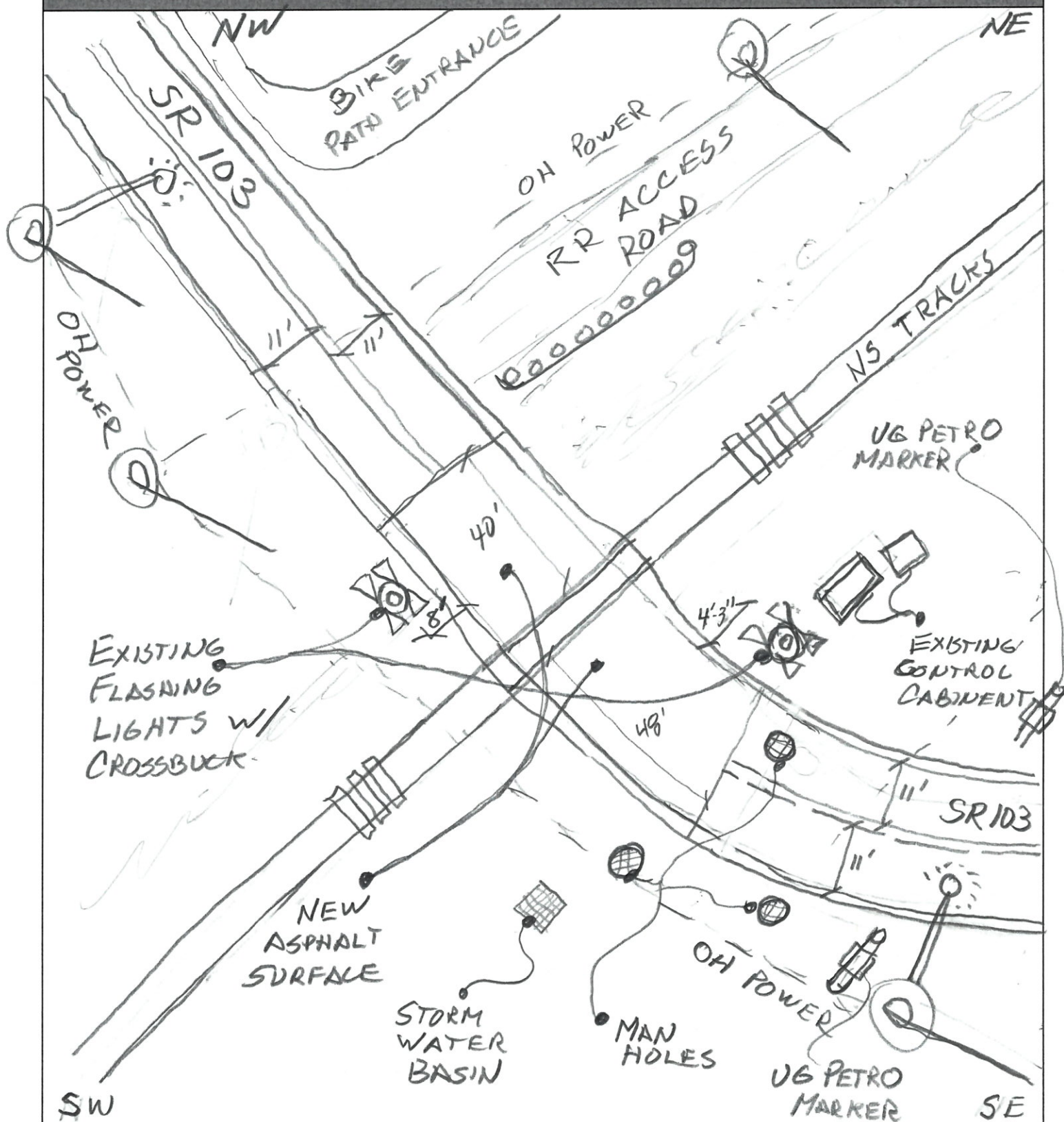
Show North Direction

Crossing Angle ☐ 0-29° ☐ 30-59° ☐ 60-90° Measured in \_\_\_\_\_ Quadrant?

Measurements by: \_\_\_\_\_

DOT# 476870S

Field Sketch



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

Sketch by: DJD 4-26-18

**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.

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

**Commission of Ohio Docketing Information System on**

**6/7/2019 11:37:49 AM**

**in**

**Case No(s). 19-1293-RR-FED**

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices and Surface Expansion at the Norfolk Southern Railway Crossing, Jefferson Street/SR 103 DOT#476-870S, in Allen County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division