

FILE

13-1723-RR-FED 29

**Public Utilities
Commission of Ohio**

Memo

To: Docketing Division
From: George Martin, Grade Crossing Planner, Rail Division
Re: In the matter of the authorization of the Columbus & Ohio River Railroad to install an active grade crossing warning device in Muskingum County
Date: July 31, 2013

The Ohio Rail Development Commission (ORDC) has authorized funding for the Columbus & Ohio River Railroad (CUOH) to install **mast-mounted flashing lights and roadway gates** in Muskingum County, Washington Township, at Innovation Way, DOT# 927921X. The crossing was surveyed on April 4, 2013 due to economic development and was found to warrant the upgrade.

The project will be paid for with federal funds, and is actual cost. As the plan and estimate for the project has been submitted and approved, staff requests an Entry with completion due in nine months. Construction may commence at once. Staff requests that the following language be incorporated in the Entry:

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.

A suggested case coding and heading would be:

PUCO Case No. 13- **1723** -RR-FED In the matter of the authorization of the Columbus & Ohio River Railroad to install an active grade warning device in Muskingum County

C: Legal Department

This is to certify that the images appearing are an accurate and complete reproduction of a case file document delivered in the regular course of business.
Technician MN Date Processed JUL 31 2013

RECEIVED-DOCKETING DIV
2013 JUL 31 AM 9:14
PUCO

Please serve the following parties of record.

Ms Cathy Stout

Ohio Rail Development Commission

1980 W Broad St, Mailstop # 3140

Columbus, Oh 43223

Mr Chris Layman

Ohio Central System

47849 Papermill Rd

Coshocton, Oh 43812

Mr Mike Jacoby

Zanesville-Muskingum County Port Authority

205 N Fifth St

Zanesville, Oh 43701

Mr Brian Taylor

Muskingum County Engineer's Office

155 Rehl Rd

Zanesville, Oh 43701

AEP

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

TO: Randall Schumacher, Supervisor, Rail Division, PUCO
FROM: Cathy Stout, Manager, Safety Section, ORDC
BY: Mike Forte, Project Manager, ORDC *MDF*
SUBJECT: Grade Crossing Warning Device Project
Innovation Way, CUOH
U.S. DOT 927 921X
Muskingum County
DATE: July 29, 2013

The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on April 4, 2013. 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 approves 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: George Martin, PUCO – M. Forte' (file)



OHIO RAIL DEVELOPMENT COMMISSION

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

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

July 29, 2013

Mr. Charles McBride
Senior Vice President
Columbus & Ohio River Rail Road
47849 Papermill Road
Coshocton, Ohio 43812

Re: Grade Crossing Warning Device Project
Innovation Way/Columbus & Ohio River Rail Road, U.S. DOT ~~517-369R~~
Muskingum County

927921X

Dear Mr. McBride:

The Columbus & Ohio River Rail Road (CUOH) plan and estimate provided in a July 24, 2013 email for the referenced project has been reviewed and is acceptable. CUOH may proceed with construction of the proposed grade crossing warning systems in accordance with the abbreviated plan and the provisions set forth in General Agreement No. 0009-A dated May 28, 2001.

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.

This authorization is contingent upon CUOH accepting the following instructions:

1. CUOH will furnish notification five (5) working days prior to the date work will start to George Martin, PUCO Railroad Division at 180 East Broad Street, Columbus, Ohio, telephone Number (614) 752-9107, FAX (614) 995-5535 or e-mail at George.Martin@puc.state.oh.us.
2. CUOH's project foreman will furnish email notification five (5) working days prior to the date work will start at the project site to me at Mike.Forte@dot.state.oh.us. I may also be reached at telephone number (614) 374-9287. CUOH's project foreman will notify the same of any stops and re-starts of the work activity and of the date work was completed for the project;



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

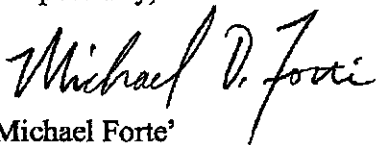
Charles McBride

Page 2

3. CUOH 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 C&ORR;
4. CUOH's project foremen will notify me 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;
5. CUOH will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed Purchase Order to reference when billing;
6. CUOH will furnish two (2) copies of the final all - inclusive bill to ORDC Office stating the exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.

Thank you for your assistance with these matters.

Respectfully,



Michael Forte'
Project Manager

MF:mf

Attachment: P.O.

c: G. Martin (PUCO) - File (M. Forte')

STATE OF OHIO
PURCHASE ORDER
OHIO DEPARTMENT OF TRANSPORTATION

PAGE: 1 of 1

P.O. DATE: 5/2/2013

ODOT P.O. NUMBER: 583134

DOCUMENT TYPE: CNTE

CHANGE ORDER: RR

OAKS P.O. NUMBER:

PID NUMBER	CONTRACT/BID/OIH		CONTROL BOARD NBR.	DOC. AMOUNT	
95897	DOTC0009A-2			\$230,000.00	
PROJECT NBR.	SIB LOAN NBR.	AGREEMENT NBR.	COUNTY	ROUTE	SECTION
			MUS	INN	WAY

VENDOR INFORMATION:

NAME: COLUMBUS & OHIO RIVER RAI

OAKS VENDOR NUMBER: 0000167874

ADDRESS: 1200C SCOTTSVILLE RD STE 200

ADDRESS CODE: 001

CITY, STATE: ROCHESTER, NY

ZIP CODE: 14624

DESCRIPTION:

RAILROAD REIMBURSEMENT

MUS INNOVATION WAY

LINE NBR	FUND	FISCAL YEAR	SAC	SPRC	RCAT	ACTIVITY	ACCOUNT CODE
01	7002	2013	4FP7	0005	NOCC	0071	573067
ELIGIBILITY		FAN		STATE JOB NBR		LINE AMOUNT	
E		DOT1E131 000184		457967		\$230,000.00	

THE DIRECTOR OF BUDGET AND MANAGEMENT HEREBY CERTIFIES THAT THERE IS A BALANCE IN THE APPROPRIATION NOT ALREADY OBLIGATED TO PAY EXISTING OBLIGATIONS IN AN AMOUNT AT LEAST EQUAL TO THE PORTION OF THE CONTRACT, AGREEMENT, OBLIGATION, RESOLUTION OR ORDER TO BE PERFORMED IN THE CURRENT FISCAL YEAR.



Diagnostic Review Team Survey

Date: 4/4/13

Location Data

Street or Road Name: Innovation Way

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

US DOT No.: 927921X

County: MUS

Township: WASHINGTON

City:
(In or Near)

Railroad Name: Ohio Central Railroad CUON

Railroad Division: Southern OK

Branch/Line Name: Cambridge

Nearest RR
Timetable Station: Sonora

RR Milepost: 73.75

On-Site Review Team

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

1. Dan Birrell, OSRR - 740-295-4122 ✓
2. Megan McClory, ORDC ✓
3. Mike Jacoby, Zanesville-Muskingum County Port Authority - 740-704-9977 ✓
4. Shawn Zurfley, PUCO - 330-417-2590 ✓ - *George Mark* PUCO 614-752-9107
5. *MIKE FORTE* ORDC *614-374-9287*
6. *KEVIN P. BELTRAMO* ARMOND CASSIL RR CONSTR. 586-754-4200
7. *DARRELL M. GUAIRE* Progress Rail Services 904-437-8538
8. *ROY SMITH* Progress Rail 502-368-6562 X2338
9. *CHRIS CLARK* Progress Rail 502-368-6542 EXT 5
10. *ANTHONY STOUT* ORDC 614 6440313

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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Pavement Markings (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	GOOD
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
Number of Tracks Signs	<input type="checkbox"/> Yes	<input type="checkbox"/> No	N.A.
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2 - DO NOT STOP ON TRACKS

Brian Taylor
UPDATED (10/2011)

Musk City Engineer's Office 740.454.0155 taylor.mcco@rrdohio.com

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

	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	0	
Hazard Ranking	2148	Date Run: 3/13/13

Railroad Data

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	6	RR WILL CONFIRM
< 1 per day		
Day thru trains	2	
Night thru trains	2	
Daytime switching movements	2	
Nighttime switching movements		
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks	1	0
Maximum train speed	25	
Typical train speed		25
Amtrak		NO

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

If multiple tracks, can two trains occupy crossing at the same time? ☐ Yes ☒ No

Can one train block the motorists' view of another train at crossing? ☐ Yes (Explain below) ☐ No

Can one or more tracks be eliminated through the crossing? ☐ Yes ☐ 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: Muskingum County

Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	381 (2013)	MUS. CO WILL CONFIRM
Highway paved	X 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: 24 ft.		
Number of highway lanes	2	
Urban or Rural	Urban	RURAL
Vehicle Speed:		25 MPH
School Bus Operation: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes _____ Amount		
Hazardous Materials Trucks: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes _____ Amount		
Shoulders: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is the shoulder surfaced? <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, deficient approach(es) _____		

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
Pedestrians: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is sidewalk present? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
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 checked="" type="checkbox"/> No <input type="checkbox"/> 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? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Explain reasons:	
Type of Development	
<input type="checkbox"/> Open Space <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Residential	<input type="checkbox"/> Institutional <input type="checkbox"/> Commercial Location of nearby schools: <div style="font-size: 1.2em; margin-top: 10px;">5 MI ON RT 40</div>
Utility Information	
Is commercial power available? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Utility Provider (Company Name) <u>AEP</u> Phone Number _____ Nearest Available Power Source <u>AT XING</u> What other utilities are present? <u>PHONE, STORM SEWER, NAT. GAS</u> (add locations to sketch) Is(are) there potential utility conflict(s) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown Comments:	

Potential Red Flags / Project Challenges

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

NO

Crossing Consolidation or Closure:

NO

Real Estate or ROW:

RR ?

Culverts / Drainage / Ballast Conditions:

W ?

Roadway and/or Sidewalks:

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

Environmental:

Other:

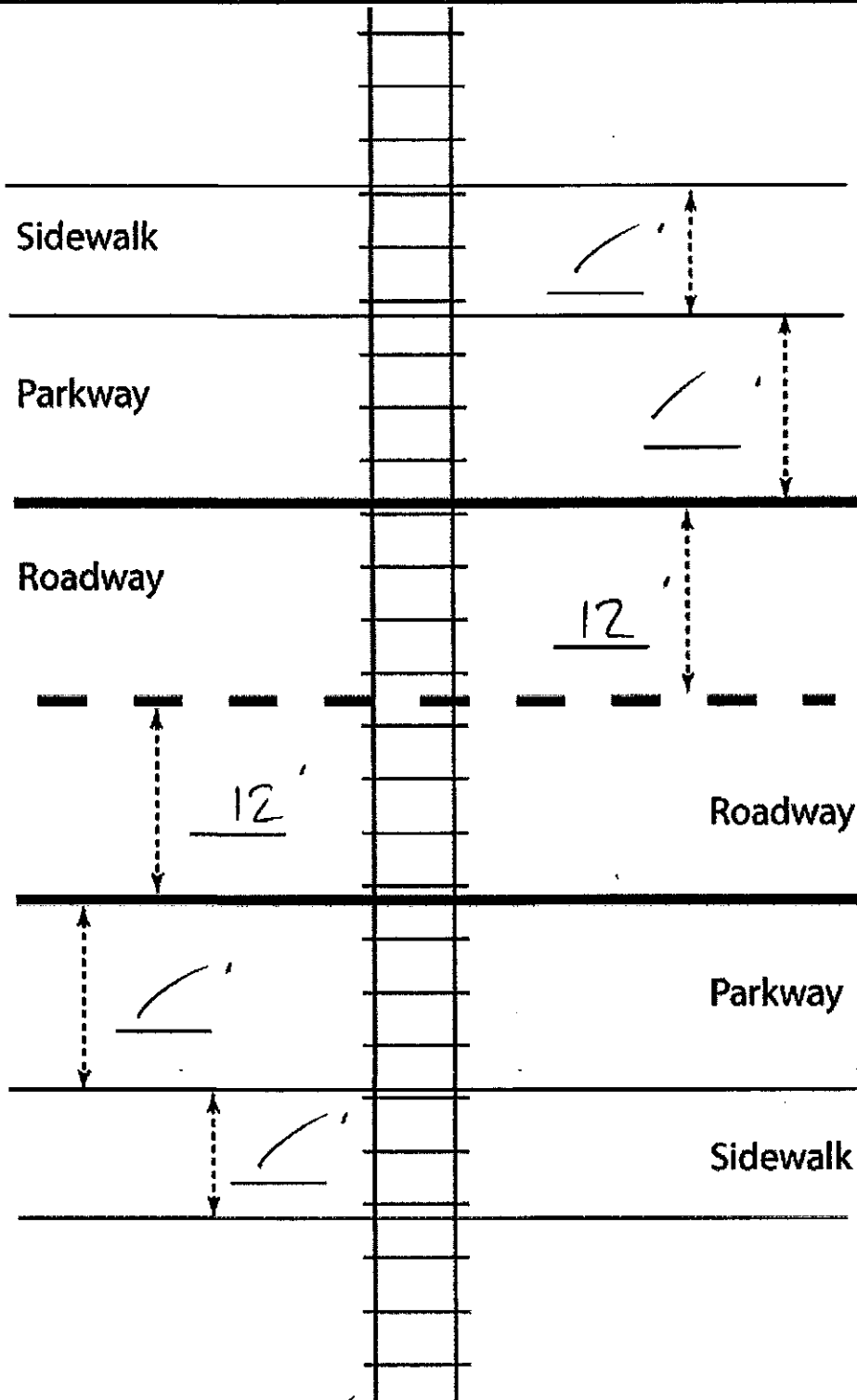
Diagnostic Team Recommendations	
<input checked="" type="checkbox"/> Install/upgrade active devices	Quadrants Needed
<input type="checkbox"/> Automatic Flashing Lights (AFLS)	
<input type="checkbox"/> AFLS / Cants	
<input checked="" type="checkbox"/> AFLS / Gates	NW
<input checked="" type="checkbox"/> AFLS / Gates / Cants	SE
<input checked="" type="checkbox"/> Bells / number	1
<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: "GATE KEEPERS"	
TIE INTO EXISTING SIGNAL HOUSE. BETWEEN CROSSINGS	
<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):	
MDF	Cup Math
DRB	D. McE
CC	
WMS	AMS

EMAIL AFTER MEETING

BECAUSE OF PROPERTY ISSUES, SEPERATE SIGNAL HOUSES.

MDF
4-22-13

Field Dimensions

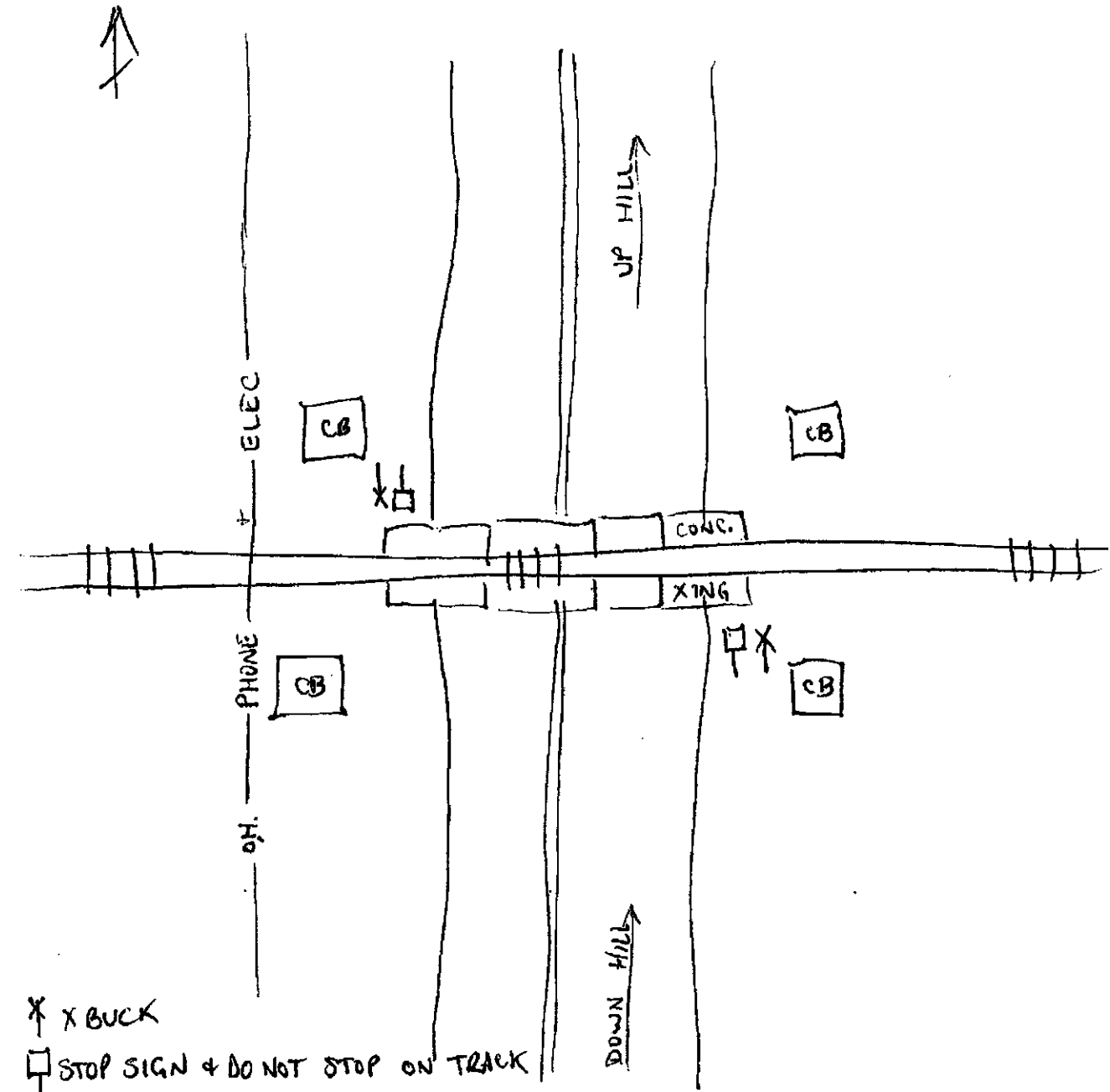


Crossing Angle ☐ 0-29° ☐ 30-59° ☒ 60-90° Measured in NE Quadrant?

Measurements by: MDF

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 NE Quadrant?

Sketch by: MDF

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)

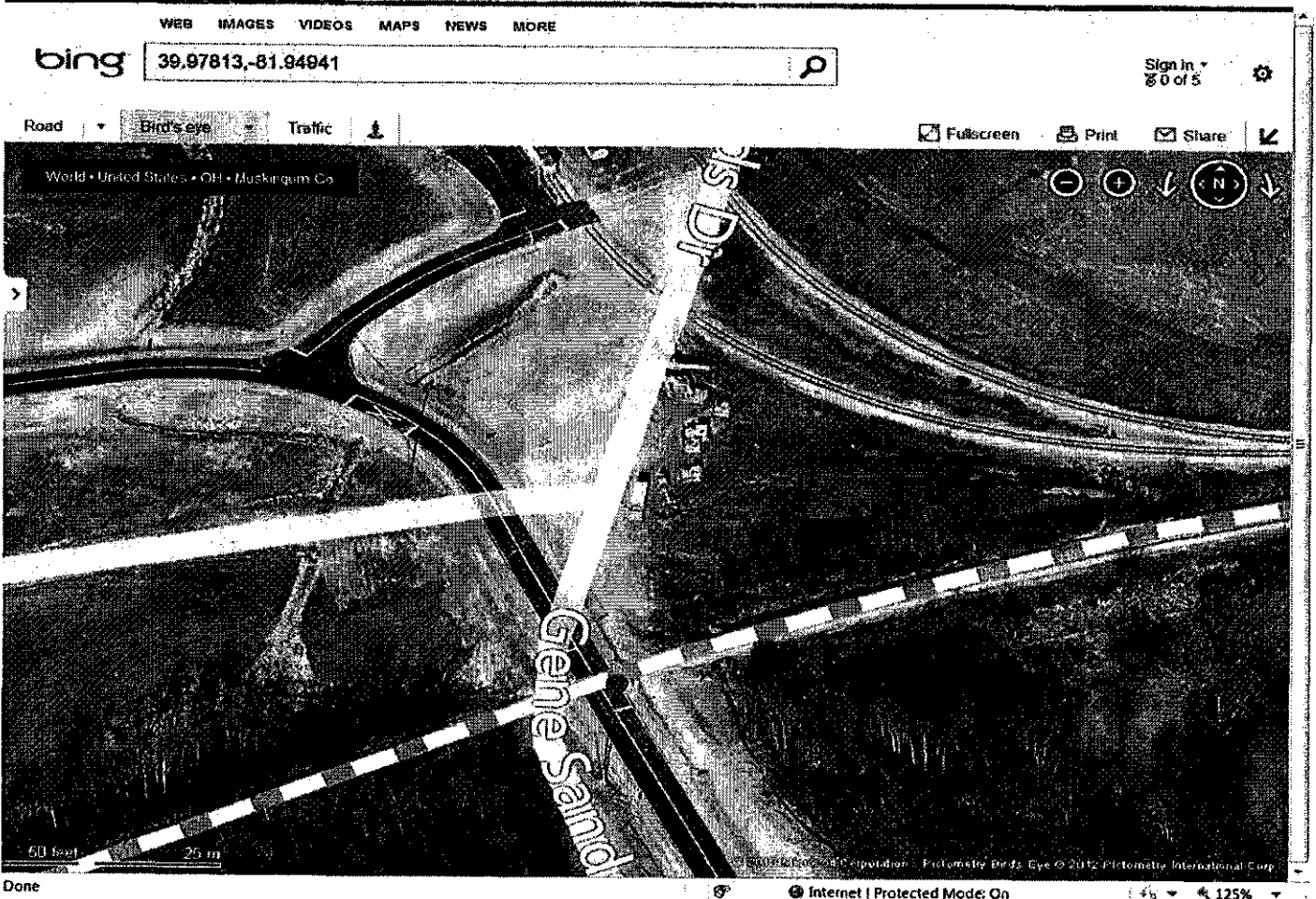
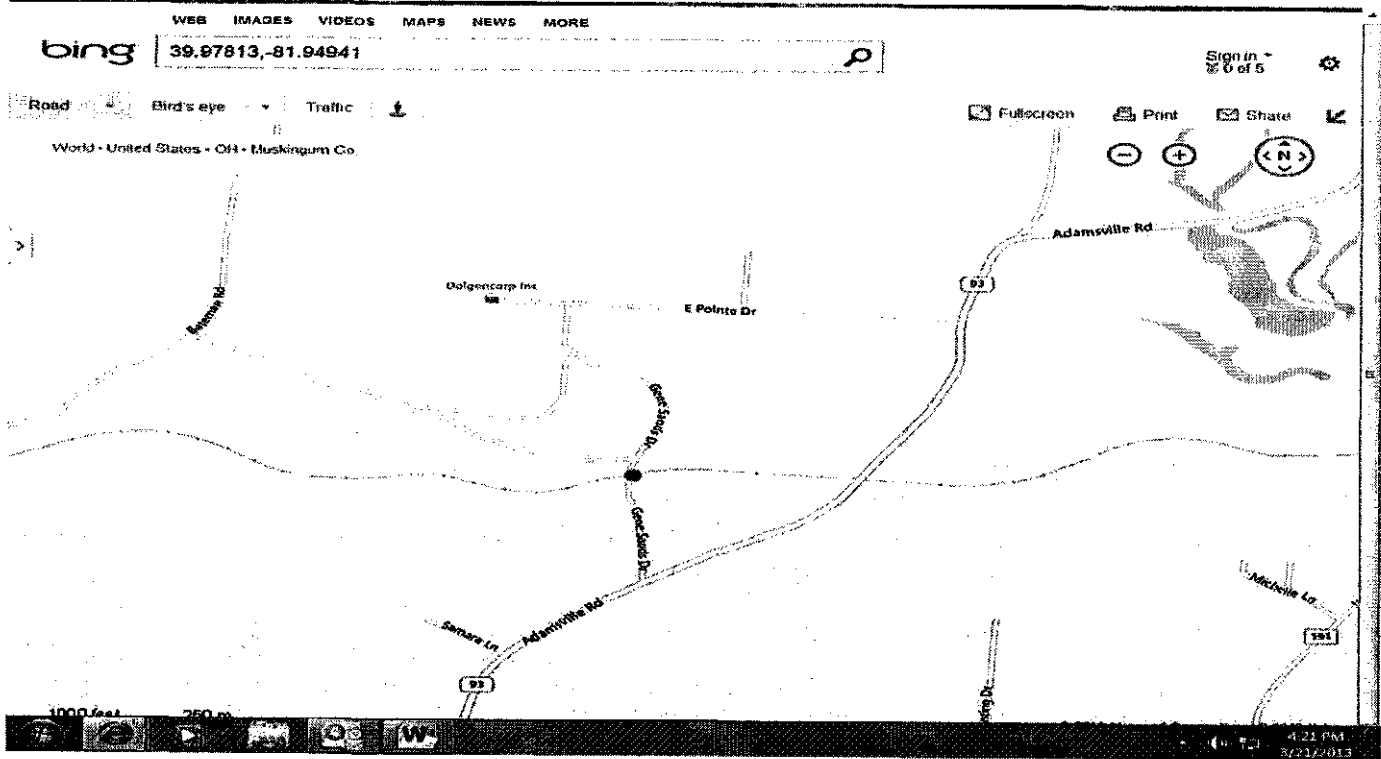
Notes:

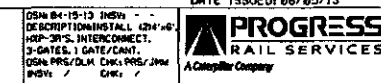
All calculated distances are rounded up to the next higher 5-foot increment.

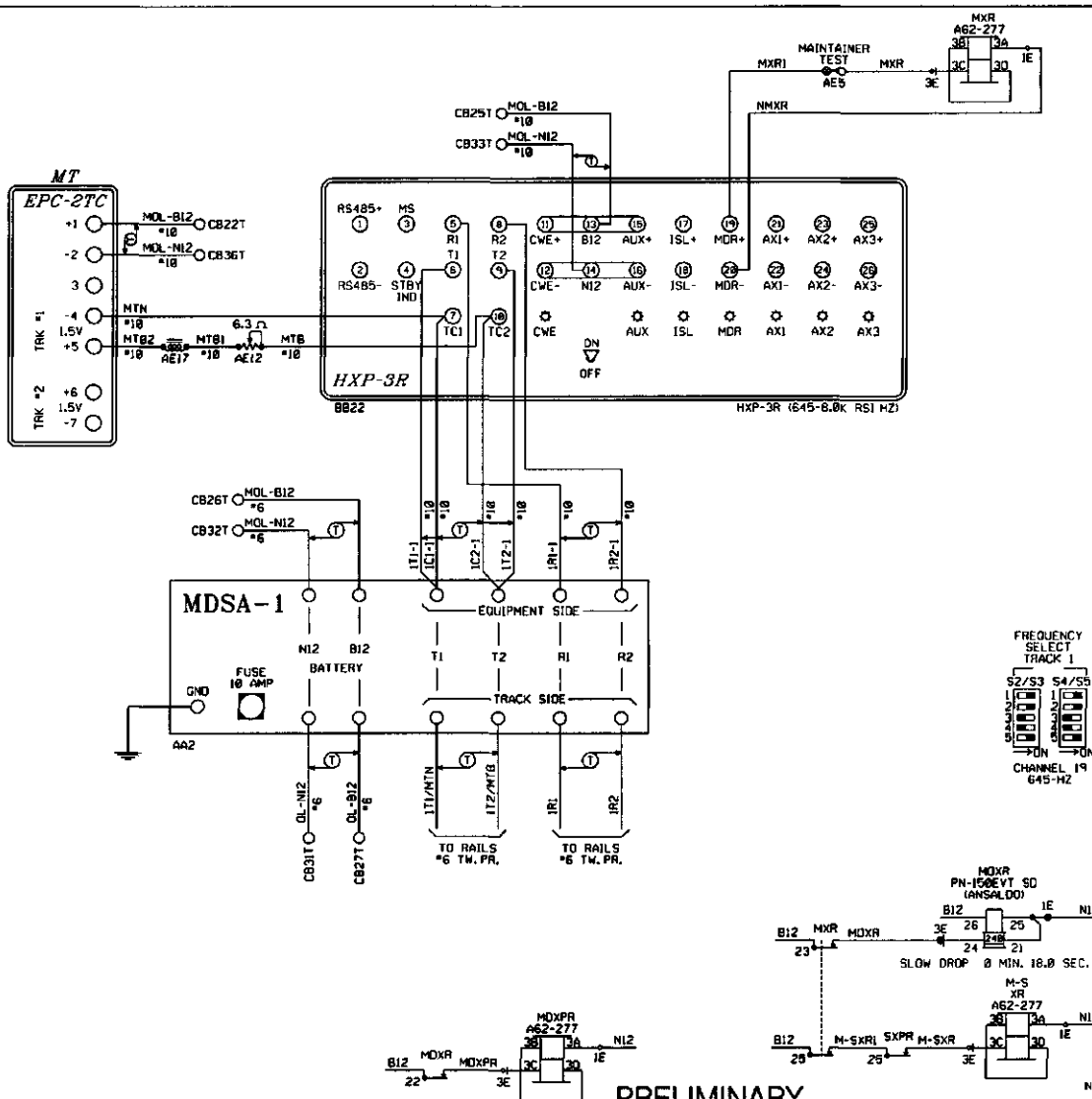
Distances indicated are for 65-ft double bottom semi-tractor trailers on dry level pavements.

Stopping Sight Distance is to be measured on each roadway approach to crossing from stop bar.

MUS-Innovation Way, DOT # 927921X







**-PRELIMINARY-
NOT FOR
CONSTRUCTION**

ALL NEW WORK

DATE ISSUED: 06/05/13

06/04-15-13 DMS

DESCRIPTION: INSTALL 120V AC

HXP-3R INTERCONNECT

3-GATES, 1 DATE/CANT

DMS: PMS/PMJ DMS: PMS/PMJ

DMS: / DMS: /

**PROGRESS
RAIL SERVICES**
A Caterpillar Company

- NOTES:
1. ALL WIRE #16 A.W.G. FLEX UNLESS OTHERWISE NOTED.
 2. "0" DENOTES TWISTED WIRE PAIR.

HXP-3R PROGRAM INFORMATION
PROGRAM VERSION 4.20, 4.20, OR LATER
* = FIELD ADJUSTMENT TO BE MADE ACCORDING TO THE HXP-3R INSTRUCTION MANUAL.

OPTION ADJUSTMENTS

NO.	ADJUSTMENTS	TRACK 1
1	TK-ENA	UP
2	TK-FG	645 HZ
3	CW/MD	C
4	UNI/B	B
5	NBS-C	* RX * FT
6	CWE-T	DL (80 SEC)
7	LOS	DL (16 SEC)
8	IJ-LOS	DL (5 SEC)
9	BC	*
10	P-COMP	*
11	AX1	SEE AX ADJ.
12	AX2	SEE AX ADJ.
13	AX3	SEE AX ADJ.
17	MDR-AX	0
	OP-TK 1 OR 2	0
	CJ-LOS	DL (0)
	PJ-DET	DL (15 SEC)
	PJ-RX	DL (15)
18	MD-TMR	DL (10 MIN)
19	MIN-WI	DL (10 MIN)
20	FS-DET	*
	FS-RX	DL (0)
	FS-TM	DL (10 MIN)
21	PDS-ST	*
	PDS-RX	DL (0)
	PDS-TM	DL (0)
22	AR	*
	AR-RX	DL (0)
	AR-TM	DL (10 MIN)
47	ATO-RX	UP
49	PF-ENA	dn

DL = DEFAULT LEVEL
NA = NON APPLICABLE

SWITCH INFORMATION

SWITCH	TRACK 1	TRACK 2
MASTER/SLAVE	MASTER	NA
RSI FAULT JUMPER	0	NA
RSI-LOS JUMPER	1	NA
TLM W1 JUMPER	PINS 1-2	
TLM W2 JUMPER	PINS 1-2	
TLM W3 JUMPER	PINS 2-3	
MINUTE TIMEDOUT	5 MIN	
CW/MD	CW	
STANDBY/AUTO/NORMAL	AUTO	

ADJUST SEL ADJUSTMENTS

ADJUSTMENTS	TRACK 1
APP. LENGTH	1.761'
WARNING TIME	43 SEC.
LIA	*
TC	*
MD-RESTART	*

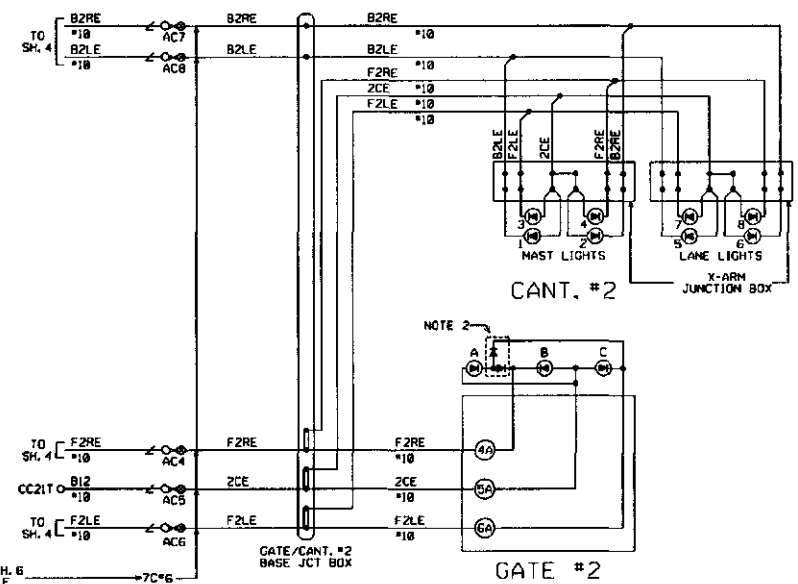
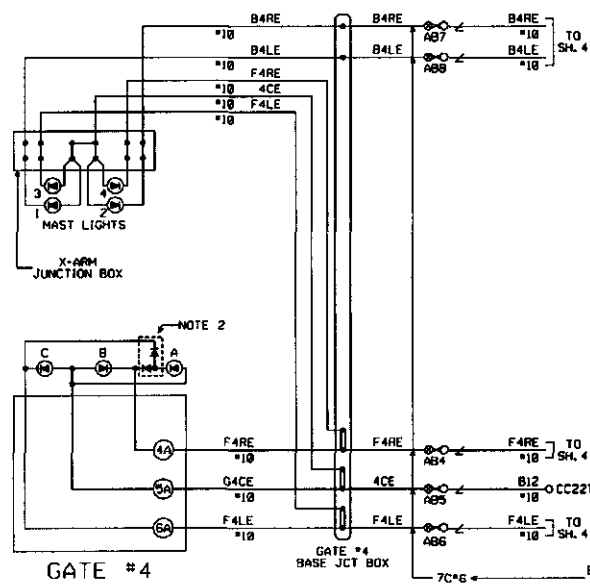
ADJUSTMENTS	AX1	AX2	AX3
TK-ASN	NA	NA	NA
OP-TK1	NA	NA	NA
OP-TK2	NA	NA	NA
WT	NA	NA	NA
MD-RST	NA	NA	NA
CW/MD	NA	NA	NA
CJ-LOS	NA	NA	NA
PJ-DET	NA	NA	NA
PJ-RX	NA	NA	NA
PDS-ST	NA	NA	NA

4'X6' MAIN HOUSE

EASTPOINTE RAILROAD

HXP-3R CIRCUIT PLAN
INNOVATION WAY-NORTH ZANESVILLE, OH

SUB SOUTHERN MP 73.75 SH 03 OF 20



**-PRELIMINARY-
NOT FOR
CONSTRUCTION**

ALL NEW WORK

DATE ISSUED: 06/05/13

DRN 84-15-13 JMW
DESCRIPTION: INSTALL. (24) Wires
NXP-305, INTERCONNECT.
3-DATES, 1 DATE/CANT.
DRN PHS/RAJ CHK PHS/JMW
REV: / CHK: /

PROGRESS
RAIL SERVICES
A Caterpillar Company

- NOTES:
1. ALL WIRE THIS SHEET NO. 15
A.W.G. FLEX UNLESS OTHERWISE
NOTED.
 2. GETS-GS P/N 227194-000.

4'X6' MAIN HOUSE

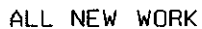
EASTPOINTE RAILROAD

FLASHER CIRCUIT PLAN
INNOVATION WAY-NORTH ZANESVILLE, OH

SUB SOUTHERN MP 73.75 SH 05 OF 20

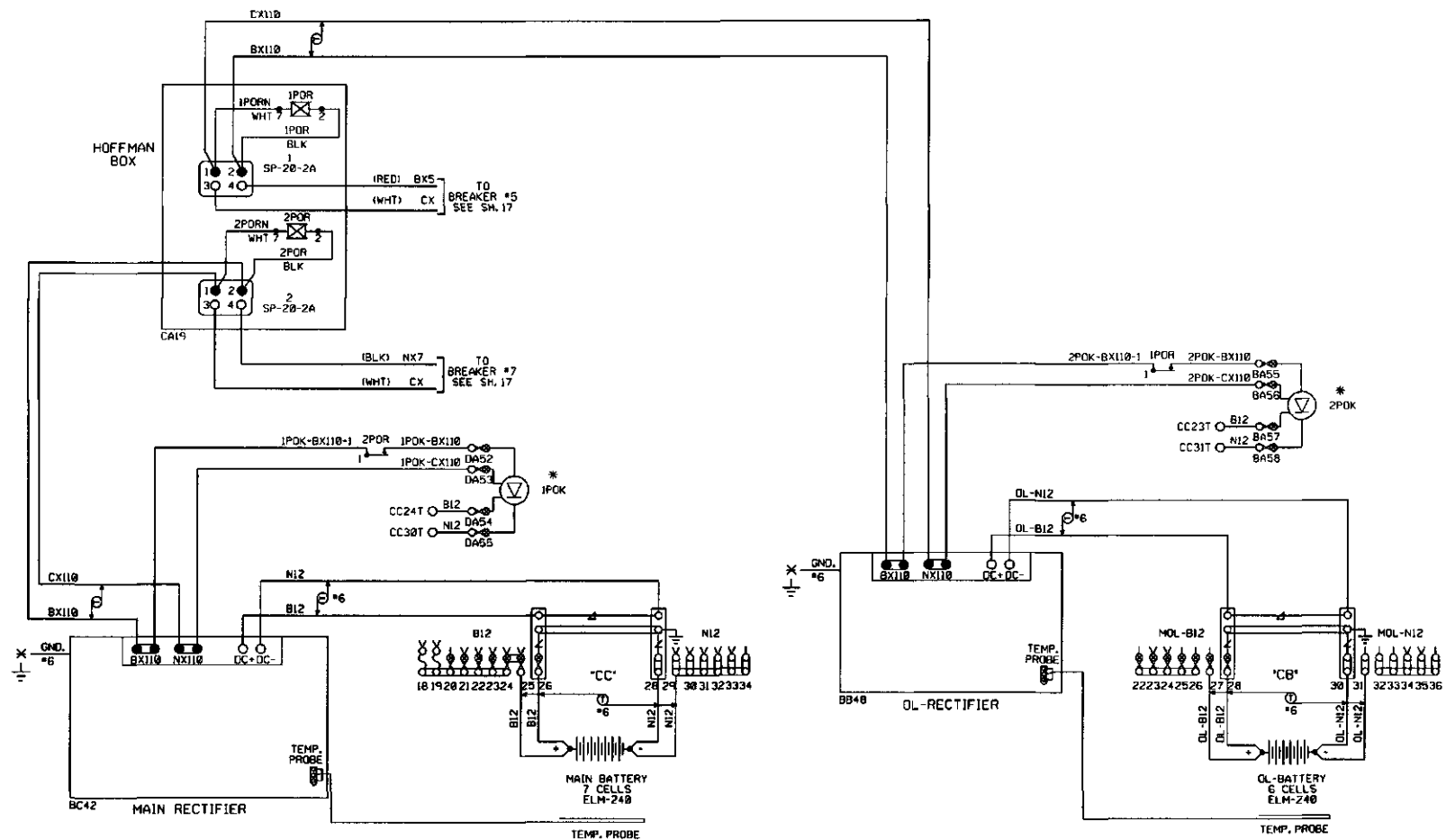


4. FOR LOCATIONS WHERE SERVICE PROVIDED IS 110 VOLT THEN BREAKER 2 SHOULD BE JUMPED TO BREAKER 4.



PROGRESS
RAIL SERVICES
A Caterpillar Company

SUB SOUTHERN	MP	73.75	SH 07 OF 20
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**-PRELIMINARY-
NOT FOR
CONSTRUCTION**

ALL NEW WORK

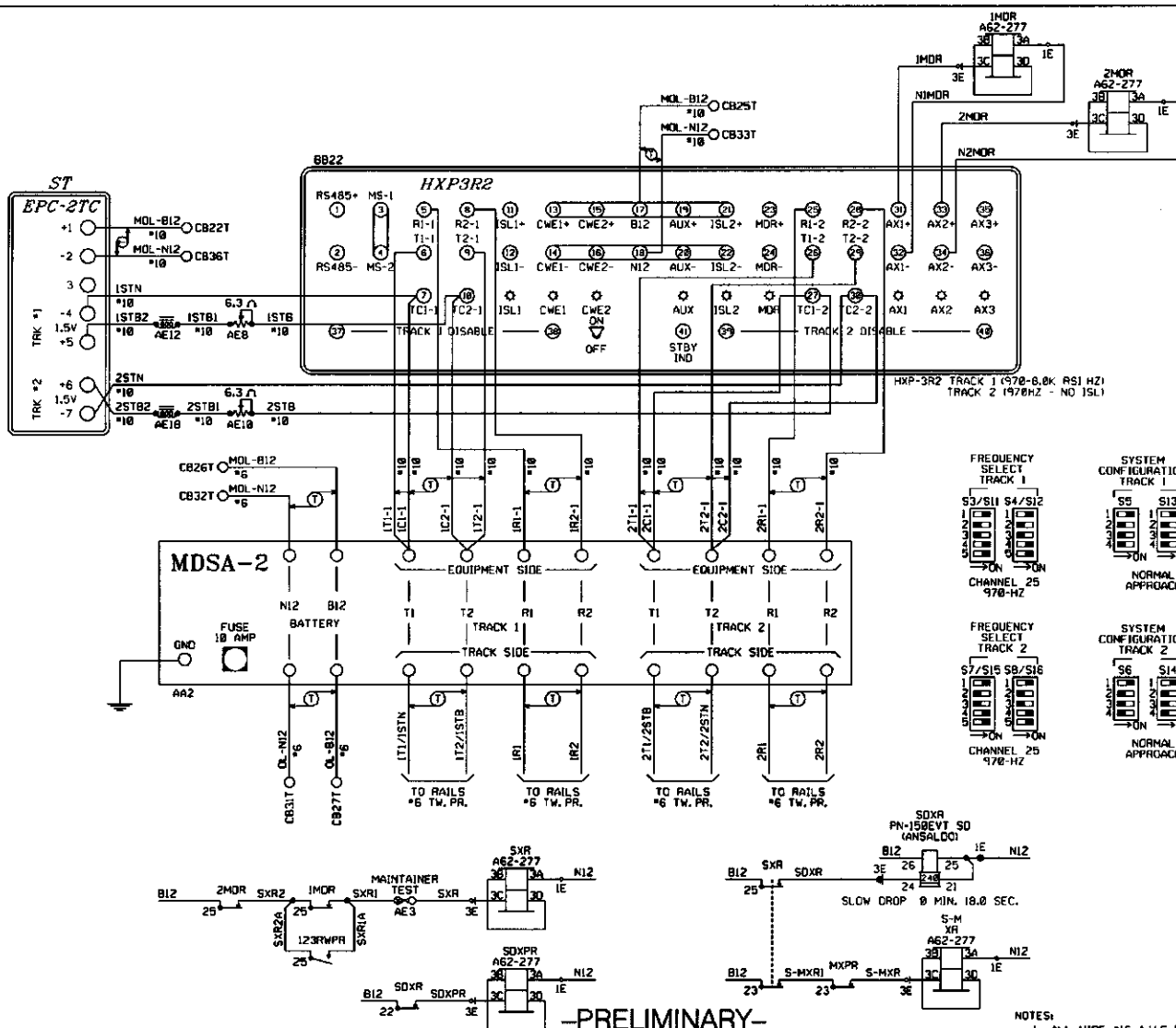
DATE ISSUED: 06/05/13

ISSN: 84-10-13 JMSV
DESCRIPTION: INSTALL 12VDC
WOP: 36'S, INTERCONNECT.
3-DATES, 1 DATE/CMT.
ISSN: PMS/MSJ CNG: PMS/JMS
JMSV: / CNG: /



EASTPOINTE RAILROAD		
BATTERY CIRCUIT PLAN		
INNOVATION WAY-NORTH ZANESVILLE, OH		
SUB SOUTHERN	MP 73.75	SH 11 OF 20

- NOTES:
1. ALL WIRE THIS SHEET NO. 10
A.W.C. PLEX UNLESS OTHERWISE
NOTED.
 2. * = LIGHTS ARE 12VDC, 4-WIRE LED.
(P/N: LC2-001WB-WG41 VELCORP GEMS)
 3. *6 DENOTES TWISTED WIRE PAIR.
3. POWER OFF LAMP CONSTANT LIT WHEN:
- AC POWER ON
- POWER OFF LAMP FLASHES WHEN:
- AC POWER OFF
- POWER OFF LAMP DARK WHEN:
- ALL POWER OFF
- 4'X6' SIDING HOUSE



PRELIMINARY-
NOT FOR
CONSTRUCTION ALL NEW WORK

DATE ISSUED: 06/05/13

DSN 04-15-13 INCH
DESCRIPTION: HALL, 12M x 6
HXP-3R2, INTERCONNECT.
3-GATES, 1 GATE/CANT.
DSN PMS/RNJ CHG PMS/JHM
HWN / CHL /



HXP-3R PROGRAM INFORMATION
PROGRAM VERSION 4.20, 4.21, OR LATER
= FIELD ADJUSTMENT TO BE MADE ACCORDING TO THE HXP-3R INSTRUCTION MANUAL.

OPTION ADJUSTMENTS			
NO.	ADJUSTMENTS	TRACK 1	TRACK 2
1	TK-ENA	UP	UP
2	TK-FQ	970 HZ	970 HZ
3	CW/MO	C	C
4	UNI/B	U	U
5	NBS-C	* RX * F1	
6	CWEWT	DL (80 SEC)	DL (80 SEC)
7	LOS	DL (16 SEC)	DL (16 SEC)
8	IJ-LOS	DL (5 SEC)	DL (5 SEC)
9	BC		
10	P-COMP		
11	AX1	SEE AX ADJ.	SEE AX ADJ.
12	AX2	SEE AX ADJ.	SEE AX ADJ.
13	AX3	SEE AX ADJ.	SEE AX ADJ.
14	MOR-AX		
15	OF-TX 1 OR 2		
16	CJ-LOS	DL (8)	DL (8)
17	PJ-DET	DL (15 SEC)	DL (15 SEC)
18	PJ-RX	DL (15)	DL (15)
19	MO-TMR	DL (10 MIN)	DL (10 MIN)
20	FS-DET		
21	FS-RX	DL (8)	DL (8)
22	FS-TM	DL (10 MIN)	DL (10 MIN)
23	POS-ST		
24	POS-RX	DL (8)	DL (8)
25	POS-TM	DL (8)	DL (8)
26	AR		
27	AR-RX	DL (8)	DL (8)
28	AR-TM	DL (10 MIN)	DL (10 MIN)
29	ATO-RX	UP	UP
30	PF-ENA	dn	dn

DL = DEFAULT LEVEL
NA = NON APPLICABLE

SWITCH INFORMATION		
SWITCH	TRACK 1	TRACK 2
MASTER/SLAVE	MASTER	SLAVE
RST FAULT JUMPER	0	NA
RST LOS JUMPER	1	NA
TLM W1 JUMPER	PINS 1-2	
TLM W2 JUMPER	PINS 1-2	
TLM W3 JUMPER	PINS 2-3	
MINUTE TIMEOUT	5 MIN	
CW/MO	CW	
STANDBY/AUTO/NORMAL	AUTO	

ADJUST SEL ADJUSTMENTS		
ADJUSTMENTS	TRACK 1	TRACK 2
APP. LENGTH	705'	705'
WARNING TIME	43 SEC.	43 SEC.
LIA		
MD-RESTART		

AX ADJUSTMENTS			
ADJUSTMENTS	AX1	AX2	AX3
TK-ASN	1	2	1&2
OF-TR1	0	NA	0
OF-TR2	NA	0	0
MT	43	43	99
MO-RST	DL(8)	DL(8)	99
CW/MO	CW	CW	d
CJ-LOS	0	0	0
PJ-DET	DL(15)	DL(15)	DL(15)
PJ-RX	DL(15)	DL(15)	DL(15)
POS-ST	dn	dn	dn

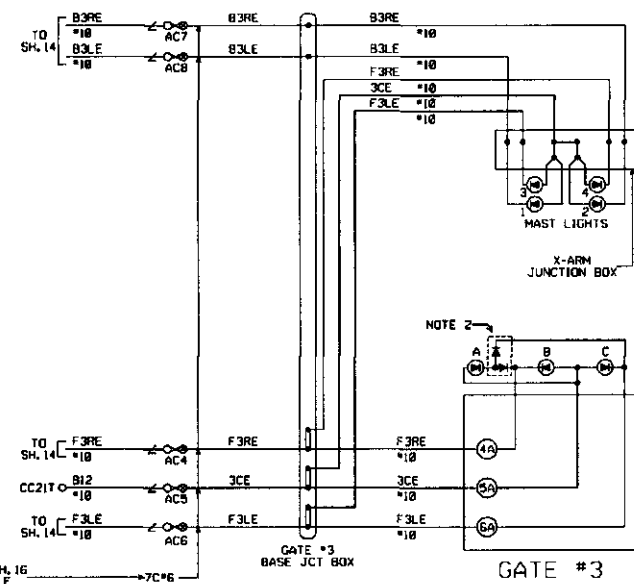
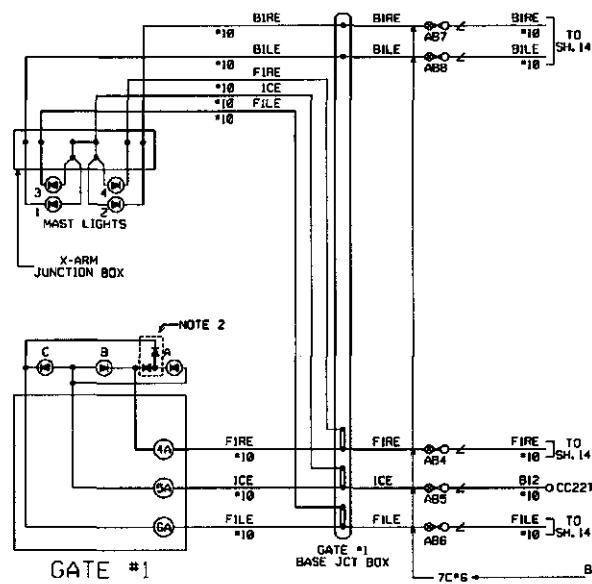
- NOTES:
1. ALL WIRE #16 A.W.G. FLEX UNLESS OTHERWISE NOTED.
2. *0* DENOTES TWISTED WIRE PAIR.

4'X6' SIDING HOUSE

EASTPOINTE RAILROAD

HXP-3R2 CIRCUIT PLAN
INNOVATION WAY-NORTH ZANESVILLE, OH

SUB SOUTHERN MP 73.75 SH 13 OF 20



-PRELIMINARY-
NOT FOR
CONSTRUCTION

ALL NEW WORK

DATE ISSUED: 06/05/13

DSN 84-15-13 DISY
DESCRIPTION/INSTALL (214) 48
HOP-30'S, INTERCONNECT,
3-GATES, 1 GATE/CNMT,
DSN 84-15-13 DISY / JMW
JMW /

PROGRESS
RAIL SERVICES
A Caterpillar Company

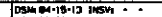
NOTES:
1. ALL WIRE THIS SHEET NO. 16
A.W.G. FLEX UNLESS OTHERWISE
NOTED.
2. GETS-GS P/N 227194-000.

4'X6' SIDING HOUSE

EASTPOINTE RAILROAD		
FLASHER CIRCUIT PLAN		
INNOVATION WAY-NORTH ZANESVILLE, OH		
SUB SOUTHERN	MP 73.75	SH 15 OF 20

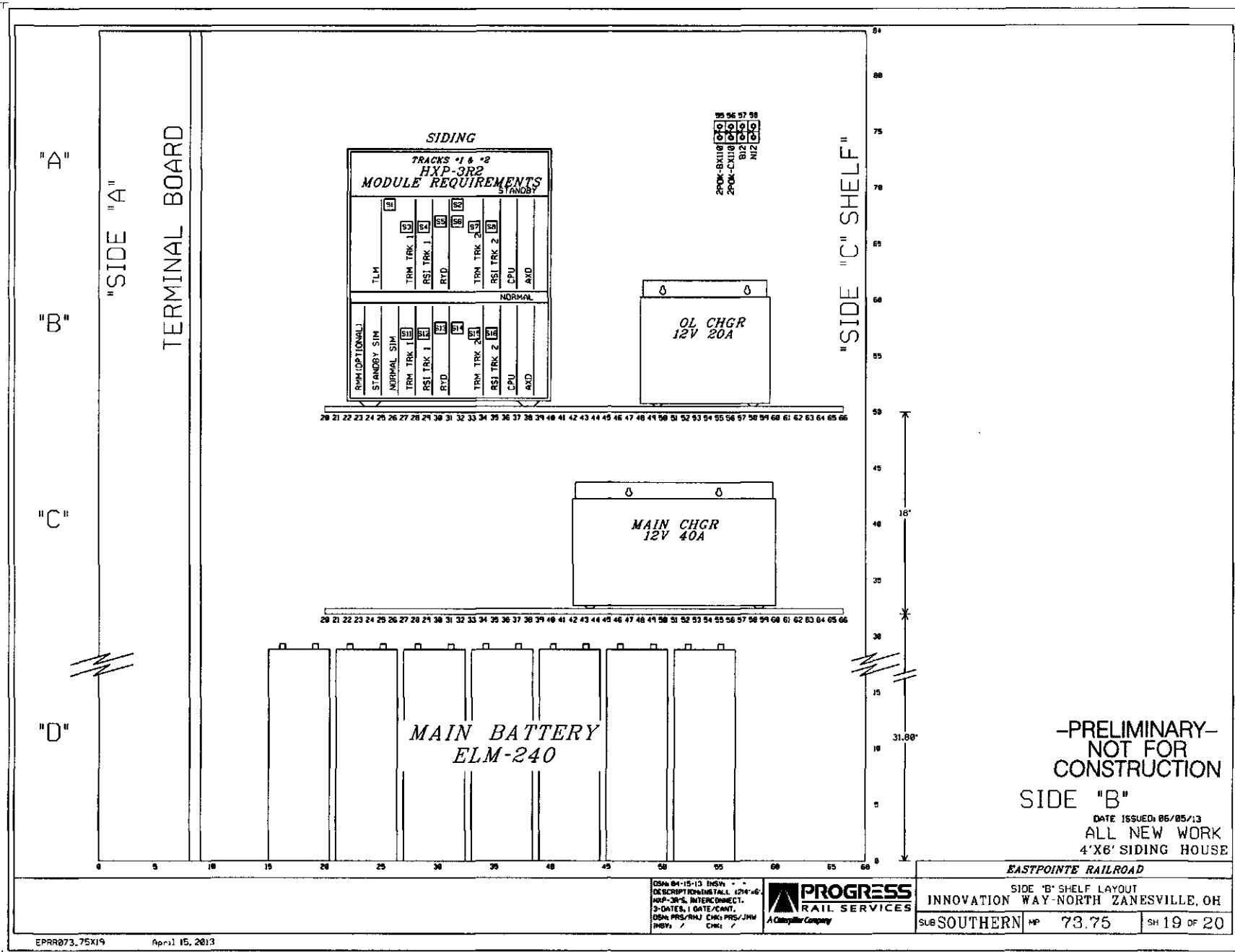


4. FOR LOCATIONS WHERE SERVICE PROVIDED IS 110 VOLT THEN BREAKER 2 SHOULD BE JUMPED TO BREAKER 4.



PROGRESS
RAIL SERVICES
A Caterpillar Company

April 15, 2013



EPRR073.75X19

April 15, 2013

ISSN 04-15-13 INST. -
DESCRIPTION: INSTALL 424'-6"
HXP-3R2, INTERCONNECT.
3-DATES, 1 DATE/CMT.
ISSN: PPS/RAJ CHG: PPS/JHW
RBY: / CHK: /

PROGRESS
RAIL SERVICES
A Caterpillar Company

EASTPOINTE RAILROAD
SIDE 'B' SHELF LAYOUT
INNOVATION WAY-NORTH ZANESVILLE, OH
SUBSOUTHERN HP 73.75 SH 19 OF 20

Estimate for signal work Innovation Way Mainline crossing

DOT 927-921X, MP 73.75

Armond Cassil crossing package	\$187,156.13
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Recording devices including installation and setup	\$3,750.00
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Total	\$190,906.13
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DATE: 7-22-13



TO: MR. DANIEL BIRRELL
 PHONE: 740-295-4122
 FAX: 740-623-7392
 EMAIL: dbirrell@gwrr.com

EASTPOINT BUSINESS PARK OCR MAINLINE SIGNAL INSTALLATION- REVISED 7-22-13

	DESCRIPTION	EST		EVEN UNIT	EVEN TOTAL
		QUANT	UNIT	PRICE	PRICES
1	MAINLINE SIGNAL INSTALLATION- MATERIAL	1	LS	\$133,655.51	\$133,655.51
2	MAINLINE SIGNAL INSTALLATION- LABOR	1	LS	\$25,293.38	\$25,293.38
3	SHIPPING	1	LS	\$2,250.00	\$2,250.00
4	SHOP WIRING AND ENGINEERING	1	LS	\$7,650.00	\$7,650.00
5	PERMITS & RRP INSURANCE	1	LS	\$8,280.00	\$8,280.00
6	MOBILIZATION/EQUIPMENT & BORING WORK	1	LS	\$10,027.24	\$10,027.24
	DESCRIPTION	EST		EVEN UNIT	EVEN TOTAL
		QUANT	UNIT	PRICE	PRICES
					\$187,156.13

QUALIFICATIONS

1. PRICE INCLUDES INSULATED JOINT BARS FOR SWITCH.
2. RAILROAD TO PROVIDE FLAGMAN AT NO COST.

DATE: 7-22-15



ITEMIZED MATERIAL PRICING

Factory Wired Instrument Shaker-Innovation Way (Main Track)			
O.E.M.	O.E.M. NO.	MATERIAL DESCRIPTION	QUANTITY UNIT UNIT PRICE TOTAL
PTMW	15638	Alum. 8' x 4' Shelter W/ P.O. LTS & C.E. Pipes w/ Term. Bd/Rly Base Heater	1 EA \$8,841.88 \$8,841.88
GEMS	LC2-001WB-WG4	LED Power Off Light 4 wire	2 EA \$189.18 \$378.35
GETS GS	250811-2201	HXP-3R w/ IDK and RMM	1 EA \$27,432.84 \$27,432.84
GETS GS	250294-001C	Surge Arrestor, MDSA-1	1 EA \$407.83 \$407.83
GETS GS	250946-020	Vital Logic Gate (VLG)	2 EA \$879.36 \$1,758.72
GETS GS	250991-000	Crossing Lamp Controller (XLC)	2 EA \$1,478.05 \$2,956.11
GETS GS	251071-010	Plugboard Kit For VLG	2 EA \$110.40 \$220.80
GETS GS	251071-100	Plugboard Kit For XLC	2 EA \$131.18 \$262.36
GETS GS	800-003510-000	ZTC DC Converter	1 EA \$711.88 \$711.88
GETS GS	250141-001	5025A Track Battery Receptor	1 EA \$253.27 \$253.27
ALSTOM	58886-005-04	Plugboard Complete, 81 Relay Mfg. Kit	8 EA \$149.63 \$1,197.08
ALSTOM	42766-001-02	Voltage Test Post Complete	8 EA \$13.44 \$107.52
ALSTOM	AS2-0277	81N Relay, 4FB-2F-1B, 500 ohm	6 EA \$832.94 \$4,997.65
ALSTOM	AS2-0580	81N Relay, 4FB-2F-1B, 500 ohm	2 EA \$832.94 \$1,665.88
ANSALDO	X40190004	Timer-Relay with Base	1 EA \$3,178.59 \$3,178.59
SAFETRAH	022485-28X	Lighting Arrestor, Clearview	44 EA \$23.90 \$1,047.36
SAFETRAH	022708-1X	Heavy Duty Equalizer	2 EA \$27.78 \$55.57
SAFETRAH	029603-4X	Resistor, Adjustable, 8 Ohm	1 EA \$67.23 \$67.23
SAFETRAH	010807-8AX	AC Line Surge Protector, Model SP-20A	2 EA \$223.56 \$447.16
BURCO	428-0001	#10 TC Blue Flex Wire	500 FT \$0.88 \$530.82
BURCO	428-0003	#14 TC Blue Flex Wire	700 FT \$0.40 \$276.71
SAFETRAH	097000-T00132	#10/12 AMP Eyelets	160 EA \$0.28 \$44.80
SAFETRAH	097000-T00833	#14/16 AMP Eyelets	100 EA \$0.17 \$16.94
GRANGER	1EGYT	Relay, HV, 12Vac, 2F3	2 EA \$25.48 \$50.96
GRANGER	5X852	Socket, Relay 6-PIN OCT Screw	2 EA \$2.54 \$5.08
GRANGER	4XP31	Fuse, 20A, NON-20	2 EA \$2.06 \$4.12
Master Dist.	N-66A	Power Isolation Transformer, 120V / 120V	1 EA \$87.42 \$87.42
SAFETRAH	024803-1X	Insulated Nut	16 EA \$9.11 \$145.76
NRS	ERBC-12/20	Battery Charger, 12V / 20A	1 EA \$755.29 \$755.29
NRS	ERBC-12/40	Battery Charger, 12V / 40A	1 EA \$1,009.41 \$1,009.41
ERICO	B2700A2C1WH	4 Post Terminal Block w/ Hardware	44 EA \$33.49 \$1,473.43
ACE	HX-375-150-WT	Tag, Slip-On	0.25 Ref \$638.12 \$159.53
Cadillac Sign Co.	N/A	Slip-On Stencil	1 EA \$31.76 \$31.76
BURCO	4009002	Bond Strand, Entox 585ATL INS664	200 FT \$1.75 \$350.12
LAW	9A2205-7X	Test Link, 1" Offset w/ Gold Nut	62 EA \$2.97 \$183.14
LAW	9A2231	Terminal Block, 2 x 6 w/ flat nut only	5 EA \$23.05 \$115.27
LAW	9A2233-1	Terminal Block, 2 post 1/2-3/8" w/ flat nut only	4 EA \$7.85 \$31.40
LAW	9A2253	#8 Non-Insulated Terminal Eye 1/4" stud	16 EA \$0.79 \$12.64
LAW	9A2258	#8 Non-Insulated Terminal Eye 5/16" stud	16 EA \$1.27 \$20.32
LAW	9A2204	Binding (Barrel) Nut	200 EA \$0.40 \$80.00
LAW	9A2210-X	Mainliner Test Switch, 3 post test terminal	1 EA \$21.73 \$21.73
LAW	9A2200	Strap, Solid, 1" Centers	25 EA \$0.47 \$11.75
LAW	9A2201	Strap, Solid, 2-3/8" Centers	6 EA \$0.80 \$4.80
LAW	9A2216-12	Buss Strip, 1" Centers 12 Hole	6 EA \$8.00 \$48.00
Village Supplies	CY0701	Circuit Plan Holder	1 EA \$15.53 \$15.53
Progress	Progress-1	FWIS Misc. Package	1 Lot \$141.18 \$141.18
Gate Flasher/Cantilever Combo Material-Innovation Way (Main Track)			
GSI	BB-3-360-5	Electronic Bell, 6" MTG.	1 EA \$275.28 \$275.28
0	0	12" Head w/ 24" Background & Hood (Painted AL)	0 EA \$0.00 \$0.00
WCH	985-869	Terminal For LED Hook-up (For larger RDG & GELED)	12 EA \$126.65 \$1,519.76
GE Lighting	RGE-RTFB-168V1-H7	12" LED Highway Crossing Light	12 EA \$176.47 \$2,117.65
Lincoln	9463000102	Pinnacles 5"	1 EA \$21.18 \$21.18
Lincoln	9411022506	Alum. Mast, 5' x 16" Base Hole 0 Degrees & Main Hole 90 Degrees right	1 EA \$381.18 \$381.18
Entco	S8985E1G72	Signal Mast Grounding w/ 72" drill #6 solid	2 EA \$55.45 \$110.91
Lincoln	9420001102	JCT. Box Base, 6" W/ 2 NPT Cap.	1 EA \$827.29 \$827.29
Lincoln	941050304	2-Way Cross Arm Assembly Less Heads (Gate Flasher)	1 EA \$811.06 \$811.06
Lincoln	941080003	57 Crossarms Assembly Mounting Kit	1 EA \$38.12 \$38.12
Lincoln	9454003810	1/4" x 20 x 3/4" Lg. Square Head Pinnacle Screws	3 EA \$0.82 \$2.46
Lincoln	9460001694	Railroad Crossing Sign, Front & Back Lettering - Bone	3 EA \$139.35 \$418.05
Progress	9460001116	Multi Track Sign, 2 Track, w/ MTG. HDWR.	1 EA \$96.00 \$96.00
Lincoln	9460009050	5" Mounting Kit for Railroad Crossing Signs w/ Extension Bracket	1 EA \$58.94 \$58.94
Progress	94COMB0483M	Cantilever / Gate Combo, 16" Cantilever	1 EA \$8,861.65 \$8,861.65
Progress	941050304	2-Way Cross Arm Assembly Less Heads, Cantilever Mast Mfg. w/ Hdr.	1 EA \$811.06 \$811.06
Progress	941050311	2-Way Cross Arm Assembly Less Heads, Cantilever Tip Mfg.	1 EA \$811.06 \$811.06
Progress	941080004	4" Crossarms Assembly Mounting Kit	1 EA \$33.88 \$33.88
Progress	9460006036	Cant. Arm Mounting Kit for Railroad Crossing Signs	1 EA \$11.29 \$11.29
Progress	9460005039	Cant. Mast Mounting Kit for Railroad Crossing Signs	2 EA \$32.47 \$64.94
Progress	9463000113	Pinnacles, 5"-10" Adapter for Bell	1 EA \$77.65 \$77.65
Progress	9459001512	High Wind Bracket Only	1 EA \$115.76 \$115.76
Progress	9459001513	High Wind Bracket Mount to Mast Channel	1 EA \$93.18 \$93.18
Progress	9454100104	Hardware Package, High Wind Bracket, 10" Mount	1 EA \$46.98 \$46.98
Progress	9459001523	Deflector Bracket	1 EA \$286.82 \$286.82
Progress	9454100106	Deflector Bracket Hardware Kit	1 EA \$48.59 \$48.59
Progress	9459001123	W-C-H Gate Mast Mounting Bracket to a 10" Mast	1 EA \$288.00 \$288.00
GSI	SK-1000-0	Gate Saver, Two Way, Cantilever/Gate Combo	1 EA \$2,875.28 \$2,875.28
Progress	TBD	Wiring Harness for 16" Cantilever (Mast & Tip & Bell)	1 EA \$218.82 \$218.82
W-C-H	M-16-CSM-24	Gate 3597-E Mechanism Assembly, including the 5" Mast Mounting Hardware, Flex Conduit, with	2 EA \$5,999.53 \$11,999.06
W-C-H	3597-4	115V Gate Mech Heater (3597)	2 EA \$105.32 \$210.64
Safetran	097000-T00132	#10/12 AMP Eyelets	60 EA \$0.28 \$16.80
BURCO	428-0001	#10 /12 TC Blue Wire	260 FT \$0.66 \$166.88
NEG	WVG 191036	Gate Arm Wind Bracket, 36"	1 EA \$96.00 \$96.00
GSI	SK-1000-2W	Gate Saver, Two Way	1 EA \$1,562.94 \$1,562.94
Progress	N/A	Misc. Signal Material	1 EA \$282.35 \$282.35

Ground Material-Innovation Way (Main Track)					
Velcop/Gems	TLAAR-DE	Insulated Terminal Wrench, 3/2" / Triangle	1 EA	\$29.66	\$29.66
SAFETRAN	032618-22X	Plugboard Terminal Wrench	1 EA	\$68.40	\$68.40
Sak	SPL250	Battery, 250 Amp Hour, NiCd	9 EA	\$364.24	\$3,278.12
Sak	SPL340	Battery, 340 Amp Hour, NiCd	10 EA	\$501.18	\$5,011.76
NRS	82667-3-P	Battery Tray (12" x 38")	2 EA	\$76.24	\$152.47
NRS	82667-1-P	Battery Tray (12" x 24")	2 EA	\$52.24	\$104.47
GETS	227194-000	Diode For Tie Light On Gate Arm	2 EA	\$109.10	\$218.20
Lincoln	9417002004	60" Tall Galv. Steel Gate Foundation w/32" Square Base w/4" Entrance Pipe welded on bottom of	1 EA	\$701.65	\$701.65
Progress	9417018603	Foundation, LIP, Cantilever, Single 5'	1 EA	\$2,017.41	\$2,017.41
NEG	8007-22S	Gate Arm 22" HWP, Al butt sec, Fg 2nd/3rd sec (Hi Intensity)	2 EA	\$402.35	\$804.71
NEG	2018-3D-RD	Gate Arm Light Kit W/Bulbs with Diode - Prior to ordering verify correct diode using XLC's	2 EA	\$282.35	\$564.71
Okonite	1094-02	Track Cable, #6 Tw. Pr. (113-12-3933)	300 FT	\$3.24	\$970.73
Okonite	1077-02	Signal Cable, 7/C # 6 AWG (206-11-6247)	350 FT	\$13.84	\$4,842.36
Okonite	1023-02	Signal Cable, 7/C #14 AWG (206-11-6587)	350 FT	\$4.81	\$1,615.02
Okonite	1024-02	Signal Cable, 12/C #14 AWG (206-11-6592)	700 FT	\$7.49	\$5,246.05
Okonite	1013-02	AC Cable, 3/C # 6 AWG (206-11-6243)	100 FT	\$8.75	\$875.29
Lyle Signs	TBD	Railroad Emergency Contact Sign - FNRR	2 EA	\$23.22	\$46.45
Safetran	030359-16X	Hex. Railroad Lock	6 EA	\$40.76	\$244.56
Erico	SB1058	Copperweld Ground Rod, 5/8" X 10'	6 EA	\$19.84	\$119.01
Erico	SBNT1181G	Cadweld One Shot, 5/8"	6 EA	\$15.44	\$92.67
Erico	SB20104	Cadweld Rail Bonds, 3/16" x 6-1/2" x 3/4" TAB	300 EA	\$6.37	\$1,910.12
Erico	SBTBCU412	Track Connector, Web	30 EA	\$6.65	\$199.48
Burco	7000603	Track Wire Retainer Clip, Erico #SBA248B	30 EA	\$4.22	\$126.64
GETS	250121-001	Shunt, WBS	2 EA	\$351.53	\$703.06
LAW	BA2363J	Reducing Sleeve, 3/16 - #6 Tinned	20 EA	\$1.27	\$25.41
LAW	BA2367J	Splicing Sleeve, 3/16 - 3/16 Tinned	20 EA	\$2.13	\$42.64
Local	TBD	Tubing 1"	16 FT	\$2.82	\$45.18
Local	TBD	Staples	50 EA	\$0.07	\$3.53
Local	TBD	Heat Shrink Tubing	8 EA	\$5.65	\$33.88
Local	TBD	Duct Seal	10 LB	\$2.75	\$27.53
Local	TBD	Electrical Tape	3 EA	\$5.66	\$16.69
Burco	4000002	Bond Strand, Erico# SBS8TLIN5664	200 FT	\$1.75	\$355.18
Safetran	032481-X	No Oxide Grease	1 EA	\$41.28	\$41.28
Granger	4WZU7	#6 Bare Copper	50 FT	\$1.14	\$57.25
Progress	Progress-2	Field Material Misc. Package	1 Lot	\$211.76	\$211.76
OTHER					
		INSULATED GAGE PLATE AND RODS	1 EACH	\$800.00	\$800.00
		INSULATED JOINTS BARS	4 EACH	\$420.00	\$1,680.00
		4000PSI CONCRETE	6 YRDS	\$180.00	\$1,080.00
		AC SERVICE	1 LS	\$1,200.00	\$1,200.00

TOTAL MATERIAL PRICE \$133,655.51