

# Memo

To: Docketing Division  
From: Jill Henry, Rail Specialist, Rail Division  
Cc: PUCO Legal Department  
Date: 3/8/17

Re: PUCO Case No. 17-686-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at the Columbus & Ohio River Railroad Crossing, DOT# 152-071R, Columbus Road in Knox County, Ohio.

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On February 29, 2016, the Ohio Rail Development Commission (ORDC) authorized funding for Columbus & Ohio River Railroad to install lights and gates at the Columbus Road, DOT#152-071R, grade crossing in Knox County, Ohio. The crossing was surveyed on November 4, 2015 and was found to warrant the upgrade. The electric utility provider for this crossing is American Electric Power Ohio.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$132,059.00 have been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in nine 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:**

Columbus & Ohio River Railroad  
Daniel R. Birrell  
Signals & Communications Supervisor  
51720 CR 16  
West Lafayette, OH 43845

Genesee & Wyoming Railroad  
Dave Baer  
Vice President Engineering  
Northeast Region Railroads  
201 N. Penn St.  
P.O. Box 477  
Punxsutawney, PA 15767

Patrick Engineering  
Joseph Bolzenius  
Project Manager  
3650 Olentangy River Road  
Suite 110  
Columbus, Ohio 43214

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

City of Mount Vernon  
Timothy Tyson  
Engineering  
40 Public Square  
Mount Vernon, Ohio 43050-3241

AEP Ohio

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

**TO:** Randall Schumacher, Supervisor, Rail Division, PUCO  
**FROM:** Cathy Stout, Manager, Safety Section, ORDC  
**BY:** Eric Neff, Safety Manager, Safety Section, ORDC  
**SUBJECT:** Knox County, Columbus Road, DOT 152071R  
PID 102157  
**DATE:** February 13, 2017

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The Public Utilities Commission of Ohio (PUCO) established a diagnostic survey at the subject location on November 4, 2015. The Ohio Rail Development Commission (ORDC) 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: Jill Henry, Rail Division Specialist, PUCO  
ORDC Project Manager (file)



# OHIO RAIL DEVELOPMENT COMMISSION

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

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

February 13, 2017

John Hilborn, P.E.  
Genesee & Wyoming/IORY  
Vice President – Engineering  
4349 Easton Way, Suite 110  
Columbus, Ohio 43219

RE: Knox County, Columbus Road, DOT 152071R, PID 102157  
Construction Authorization

Dear Mr. Hilborn:

The Bid process for the referenced project has been reviewed and is acceptable. Columbus and Ohio River Railroad (CUOH) may proceed with the construction of the proposed grade crossing warning system in accordance with the abbreviated plan. This authorization is made with the stipulation and understanding that the approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit. Reimbursement of eligible actual cost is limited to \$132,059.00, and is broken down as \$93,559.00 for TCR Rail Systems.

This authorization is contingent upon CUOH accepting the following instructions:

1. CUOH's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Eric Neff, ORDC, email: [eric.neff@dot.ohio.gov](mailto:eric.neff@dot.ohio.gov) and to Jill Henry the Public Utilities Commission of Ohio at email: [jill.henry@puco.ohio.gov](mailto:jill.henry@puco.ohio.gov). NS's project foreman will also notify the same of any stops and re-starts of the work activity and of the date work was completed for the project.
2. 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 NS.
3. CUOH's project foremen will notify Eric Neff at 614-752-0399 (telephone) or [eric.neff@dot.ohio.gov](mailto:eric.neff@dot.ohio.gov) (email) of any changes in the scope of work, cost overruns, material changes, etc. which are not included in the approved plan and estimate and secure approval of same before the work is performed.
4. Open cut of roadways is not permitted except in unusual circumstances and must be coordinated with the local highway authority and preapproved by ORDC.



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phone: 614.644.0306

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5. CUOH will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.
6. CUOH will furnish two (2) copies of the final all-inclusive bill to ORDC stating the exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.
7. This installation will include any ancillary work to make the warning devices function as designed and meet MUTCD.

Thank you for your assistance with these matters.

Sincerely,



Eric T. Neff  
Project Manager, Safety Programs

Attachments: Diagnostic Review  
Letter Agreement  
Force Account Estimate - Columbus Road  
SIGNAL VENDOR BID ANALYSIS  
State of Ohio Purchase Order

C: Randall Schumacher, Rail Division Supervisor, PUCO (email)  
Jill Henry, Grade Crossing Planner, PUCO (email)  
Susan Arduini, ORDC (email)  
Joseph S. Bolzenius, PE, PS, LEED AP, Patrick Engineering  
ORDC (file)





Force Account Estimate - Columbus Road  
**THE COLUMBUS & OHIO RIVER RAIL ROAD COMPANY (CUOH)**  
Mt. Vernon, OH (Knox County)

DOT#: 152071R  
Railroad # 16CUOH02R  
RR MP: 24.16

**SUMMARY**

<b>CROSSING WARNING SYSTEM</b>	\$ 93,559.00
(Includes all labor, materials, shop wiring, and installation)	
<b>CROSSING SURFACE/RESURFACE</b>	\$ -
(Includes all labor, materials, shop wiring, and installation)	
<b>TRACK GRADE AND REHABILITATION</b>	\$ -
(Includes all labor, materials, and installation)	
<b>RAILROAD ENGINEERING</b>	\$ -
(Includes RAILROAD Labor for Reviewing Engineering Authorizations, Field Inspections and Administrative Labor)	
<b>PRELIMINARY ENGINEERING</b>	\$ 8,000.00
(Includes CONTRACT Labor for all Engineering, Agency Coordination, and Project Management)	
<b>CONSTRUCTION ENGINEERING</b>	\$ 16,000.00
(Includes CONTRACT Labor for all Engineering, Agency Coordination, and Project Management)	
<b>CONSTRUCTION ENGINEERING INSPECTION</b>	\$ 5,500.00
(Estimated Construction Engineering Inspection cost)	
<b>UTILITY CROSSING</b>	\$ -
(0 new utility crossings @ \$4000 per crossing, includes application, engineering review, and right of entry)	
<b>FLAGGING SERVICES</b>	\$ 5,000.00
(Estimated Flagging Services cost based on 5 days @ \$1000 per day)	
<b>AC POWER SERVICE</b>	\$ 4,000.00
(Includes all Coordination and Power Service Charges not included in other costs)	
<b>OTHER (Description Required)</b>	\$ -
<b>TOTAL ESTIMATE COST</b>	<b>\$ 132,059.00 (USD)</b>

Estimate Prepared By: J. Bolzenius, PE  
Date: 1/19/2017

**NOTE:**

This Estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower, resource availability, and other factors known as of the date prepared. The actual cost for Railroad work may differ based upon the agency's requirements, their contractors work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work. If any extended time elapses from the date of this Estimate, the Railroad will reserve the right to update the estimate to current price values, and require agency's approval before any work by Railroad will commence.



# OHIO RAIL DEVELOPMENT COMMISSION

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

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

June 6, 2016

Mr. John Hilborn, P.E.  
Vice President - Engineering  
Columbus & Ohio River Railroad  
4349 Easton Way, Suite 110  
Columbus, Ohio 43219

152071R

RE: Knox County, Columbus Road, DOT 142071R, PID 102157

Dear Mr. Hilborn:

The plan and estimate transmitted June 1, 2016, for the referenced project has been reviewed and is acceptable. Columbus & Ohio River Road may proceed with soliciting bids for the proposed grade crossing warning system in accordance with the abbreviated plan. This authorization is made with the stipulation and understanding that the approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit.

A construction authorization will be sent once the bid documents have been received and approved. No field work may be started without a construction authorization from this office.

Sincerely,

Joseph N. Reinhardt, Project Manager  
Ohio Railroad Development Commission

C: Randall Schumacher, Supervisor, Rail Division, PUCO  
George Martin, PUCO, Grade Crossing Planner  
ORDC (file)



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phone: 614.644.0306

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Force Account Estimate - Columbus Road  
**THE COLUMBUS & OHIO RIVER RAIL ROAD COMPANY (CUOH)**

Mt. Vernon, OH (Knox County)

DOT#: 152071R  
Railroad # 16CUOH02R  
RR MP: 24.16

**SUMMARY**

<b>CROSSING WARNING SYSTEM</b>	\$ 131,580.00
(Includes all labor, materials, shop wiring, and installation)	
<b>CROSSING SURFACE/RESURFACE</b>	\$ -
(Includes all labor, materials, shop wiring, and installation)	
<b>TRACK GRADE AND REHABILITATION</b>	\$ -
(Includes all labor, materials, and installation)	
<b>RAILROAD ENGINEERING</b>	\$ -
(Includes RAILROAD Labor for Reviewing Engineering Authorizations, Field Inspections and Administrative Labor)	
<b>PRELIMINARY ENGINEERING</b>	\$ 8,000.00
(Includes CONTRACT Labor for all Engineering, Agency Coordination, and Project Management)	
<b>CONSTRUCTION ENGINEERING</b>	\$ 16,000.00
(Includes CONTRACT Labor for all Engineering, Agency Coordination, and Project Management)	
<b>CONSTRUCTION ENGINEERING INSPECTION</b>	\$ 5,500.00
(Estimated Construction Engineering Inspection cost)	
<b>UTILITY CROSSING</b>	\$ -
(0 new utility crossings @ \$4000 per crossing, includes application, engineering review, and right of entry)	
<b>FLAGGING SERVICES</b>	\$ 5,000.00
(Estimated Flagging Services cost based on 5 days @ \$1000 per day)	
<b>AC POWER SERVICE</b>	\$ 4,000.00
(Includes all Coordination and Power Service Charges not included in other costs)	
<b>OTHER (Description Required)</b>	\$ -
<b>TOTAL ESTIMATE COST</b>	<b>\$ 170,080.00 (USD)</b>

Estimate Prepared By: J. Bolzenius, PE  
Date: 5/31/2016

**NOTE:**

This Estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower, resource availability, and other factors known as of the date prepared. The actual cost for Railroad work may differ based upon the agency's requirements, their contractors work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work. If any extended time elapses from the date of this Estimate, the Railroad will reserve the right to update the estimate to current price values, and require agency's approval before any work by Railroad will commence.



Preliminary Crossing Warning System Estimate

**Crossing Name: Columbus Road**  
**Railroad: CUOH**  
**Town, State (County): Mt Vernon, OH**  
**Railroad #: 16CUOH02R**  
**FRA#: 152071R**  
**Patrick Engineering #: 21577.832**

ITEM	UNIT COST	UNITS	TOTAL
6'x6' Wired House with Equipment	\$ 49,350.00	1 EA	\$ 49,350.00
Gate/Flasher Assembly	\$ 10,500.00	2 EA	\$ 21,000.00
Switch Insulation (Rods and Guage Plates)	\$ 5,250.00	0 EA	\$
Additional Side Lights	\$ 1,942.50	0 EA	\$
Additional Fill Material	\$ 21.00	150 CY	\$ 3,150.00
New Curb	\$ 20.00	130 LF	\$ 2,600.00
<b>SUBTOTAL</b>			<b>\$ 76,100.00</b>
Field Installation Materials @ 30%			\$ 22,830.00
Freight & Handling			\$ 2,000.00
<b>TOTAL MATERIALS</b>			<b>\$ 98,930.00</b>
Foreman (1)	\$ 60.00	40 hrs	\$ 2,400.00
Lead Signalman (2)	\$ 45.00	80 hrs	\$ 3,600.00
Signalman (2)	\$ 35.00	80 hrs	\$ 2,800.00
<b>TOTAL INSTALLATION &amp; WIRING</b>			<b>\$ 8,800.00</b>
Equipment	\$ 750.00	5 Day	\$ 3,750.00
Pipe Push	\$ 45.00	60 ft	\$ 2,700.00
Bungalow Wiring and Test	\$ 5,800.00	3 hrs	\$ 17,400.00
Replace & Install IJ's	\$ 4,700.00	0 Day	\$
<b>TOTAL EQUIPMENT</b>			<b>\$ 23,850.00</b>
<b>TOTAL CROSSING WARNING SYSTEM</b>			<b>\$ 131,580.00</b>



## BASIS OF DESIGN



PEI Project No. 21577.832  
Region: Ohio Valley  
Railroad: CUOH  
Subdivision: Louisville

Location Name: Columbus Road  
City, (County), ST: Mt. Vernon, OH  
MP. 24.16  
DOT # 152 071R

Number of tracks: 1  
Rail Information (Type and Weight): 100 RB, JT  
Proposed Warning Devices: lights, bells and gates  
Gate Mech Type: WCH Model 3593E  
Proposed Equipment: XP4  
Redundant or Standby: Yes  
Type of Signal Territory if Applicable: N/A  
Proposed Approach Frequency: 645 Hz - Columbus/ 430 Hz - Bike Trail  
Island Frequency: (TBD) KHz  
Approach / Island Length: 515' (35s)/120'  
Overlap with Existing Xngs (names): Knox Trail  
No. of Switches to Insulate: N/A  
Pre-emption Required? (how many seconds): N/A  
Gate Down Delay (seconds): N/A

Max Track  
Speed: 10 MPH

Type: \_\_\_\_\_

Additional Info: \_\_\_\_\_

New shunts will be required, but reuse existing 645Hz for Columbus; contractor will install new track wires  
ROW to be verified. Val Map says 50', but fence encroachment at 30'. Contractor will also run new power cable  
from existing service pole (to remain) to Knox Trail signal enclosure. Curbing will be required to avoid  
conflicts with sidewalks.  
Tie-in circuits with Knox Trail

### Clearance Calculation

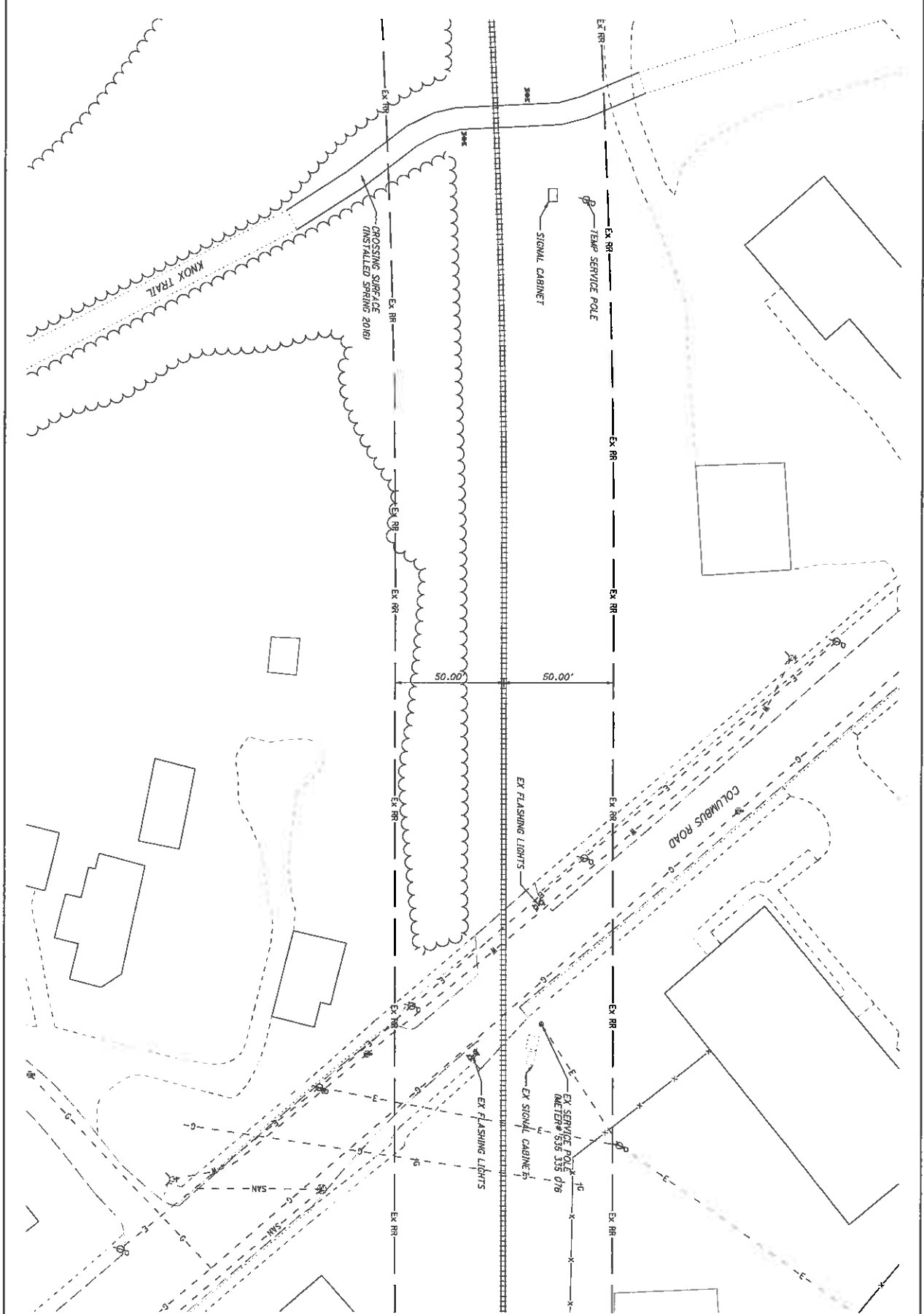
Distance from Governing Signal to 13' from centerline of tracks: \_\_\_\_\_  
Minus 35: -35  
Total: \_\_\_\_\_  
Divided by 10 = Seconds of Clearance Time (rounded up): \_\_\_\_\_

*The undersigned agree to the proposed scope and equipment and authorize Patrick Engineering to proceed with design.*

G&W Representative: \_\_\_\_\_ Date: \_\_\_\_\_

PEI Representative: \_\_\_\_\_ Date: \_\_\_\_\_







## Diagnostic Review Team Survey

Reason for Survey:

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

Constituent

Date:

11/4/15

### Location Data

Street or Road Name: Columbus Road			
Route/Road Number (i.e. Twp., Co., SR or US)		US DOT No.: 152071R	
County: KNO	Township:	City: (In or Near)	City of Mt. Vernon
Railroad Name: Cols & Ohio River Railroad	Railroad Division: Louisville	Branch/Line Name:	
Nearest RR Timetable Station: Mt. Vernon		RR Milepost: 24.16	

### On-Site Review Team

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

1. Joe Bernhardt ORDC 614-644-0291
2. GEORGE MARTIN PULCO 614-752-9107
3. Gene P Howsky OHCR 740 502-7214
4. TERO HILLER PATRICK ENG. 740-513-8510
5. Brendan C. Keener ORDC 614-728-8917
6. TIMOTHY B. TYSON CITY OF MOUNT VERNON 740-393-9528
7. D. R. BIRRELL OHCR 740-295-4122
8. \_\_\_\_\_
9. \_\_\_\_\_

### Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
'Stop' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Pavement Markings (condition?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Inventory Tags	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Emergency
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

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

	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	0	
Hazard Ranking	3737	Date Run: 10/15/15
		2550 11/3/15

**Railroad Data**

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	2	
< 1 per day		
Day thru trains	2	
Night thru trains		
Daytime switching movements		
Nighttime switching movements		
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks		
Maximum train speed	10	
Typical train speed	10	
Amtrak		

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:	City of Mt. Vernon	
Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	1892 (2011)	3222 5811
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:	20 ft.	
Number of highway lanes	2	
Urban or Rural	Urban	
Vehicle Speed:	35 MPH	
School Bus Operation:	<input type="checkbox"/> No X Yes <u>25</u> Amount <u>15</u>	
Hazardous Materials Trucks:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes .04% Amount	
Shoulders:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Is the shoulder surfaced?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is there existing guardrail along roadway in crossing vicinity?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is stopping site distance adequate? (See Table 2)	<input 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 type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Is sidewalk present? <input type="checkbox"/> No <input checked="" 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 checked="" type="checkbox"/> No <input type="checkbox"/> Yes Are the signals currently interconnected with the existing crossing warning devices? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Is there a 'Do not Stop on Track' sign? <input checked="" 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 type="checkbox"/> Industrial <input checked="" type="checkbox"/> Residential	<input type="checkbox"/> Institutional <input checked="" type="checkbox"/> Commercial Location of nearby schools: <div style="font-size: 1.2em; margin-top: 10px;">1/2 mile Columbusa Elementary</div>
Utility Information	
Is commercial power available? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Utility Provider (Company Name) _____ Phone Number _____ Nearest Available Power Source _____	
What other utilities are present? (add locations to sketch) <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Gas  <input type="checkbox"/> Petroleum  <input type="checkbox"/> Other _____         </div> <div> <input checked="" type="checkbox"/> Cable  <input checked="" type="checkbox"/> Water         </div> <div> <input checked="" type="checkbox"/> Telephone  <input checked="" type="checkbox"/> Sanitary Sewer         </div> <div> <input type="checkbox"/> Fiber Optic Cable         </div> </div>	
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):

Crossing Consolidation or Closure:

Real Estate or ROW:

Culverts / Drainage / Ballast Conditions:

Roadway and/or Sidewalks:

Sidewalks are on both north & south side of crossing. They are on outside of flashers.

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

Environmental:

Other:

JWR  
11-4-15

## 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)

Possibly

Comments:

Possible circuitry upgrade if the bike trail xing is install in the future. It's located north of xing. Funding to be discuss with wgt + RR at a later date.

☐ Install/upgrade traffic signal preemption

☐ No improvements needed

☒ Other (define)

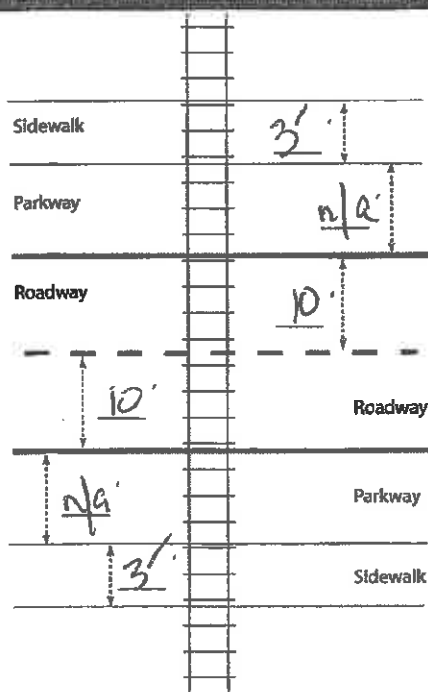
City of Mt. Vernon will be reimburse for curbs if project goes forward.

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

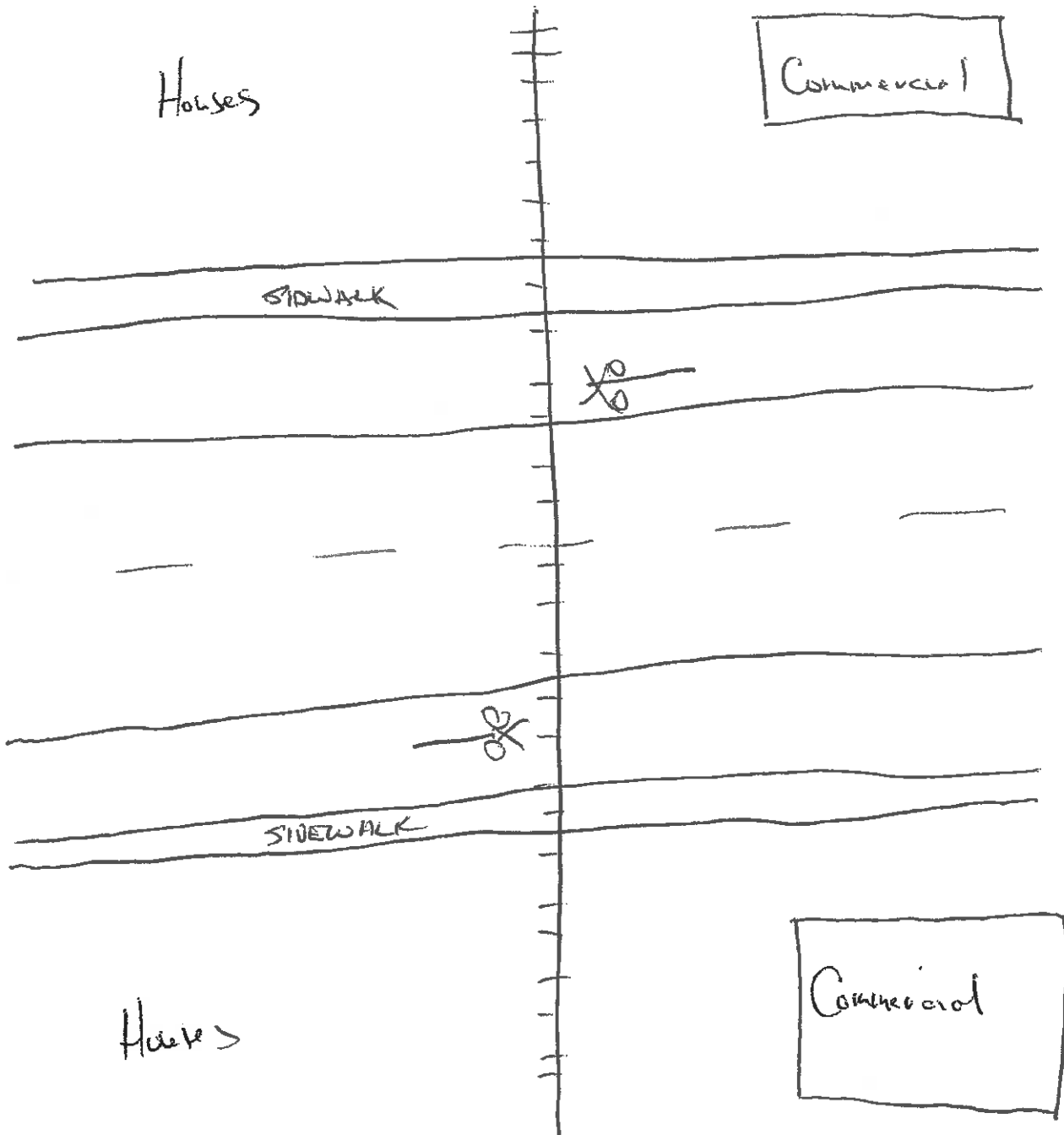
*JNR*  
DLB

*Gm*  
TBT

## Field Dimensions



Field Sketch



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

Sketch by: gpc

TABLE I

## Clearing Sight Distances

Maximum Authorized Train Speed	Distance (dT) Along Railroad from Crossing (ft)
1 - 10	240
15	360
20	480
25	600
30	720
35	840
40	960
45	1080
50	1200
55	1320
60	1440
65	1560
70	1680
75	1800
80	1920
85	2040
90	2160

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

## Notes:

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

Distances indicated are for 65-ft double bottom semi-tractor trailers and level single track 90 degree crossings; and may need to be adjusted for multiple tracks, skewed crossings or approaches on grades.

Clearing Sight Distance is to be measured in each vehicle travel direction at non-gated crossings as viewed from a point 25 feet from centerline of nearest track in the center of whichever travel lane is nearest the direction along track being measured.

Table 2

## Stopping Sight Distances

Highway Vehicle Speed	Distance (dH) Along Roadway from Crossing (ft)
0	n/a
5	50
10	70
15	105
20	135
25	180
30	225
35	280
40	340
45	410
50	490
55	570
60	660
65	760
70	865

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

## Notes:

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

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

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

*JKK*  
11-4-15



# OHIO RAIL DEVELOPMENT COMMISSION

1980 WEST BROAD STREET • COLUMBUS, OH 43223

JOHN R. KASICH, GOVERNOR • JAMES G. BRADLEY, ORDC CHAIRMAN

February 29, 2016

Mr. John Hilborn, P.E.  
Vice President – Engineering  
Ohio Valley Regional Railroads  
4349 Easton Way, Suite 110  
Columbus, Ohio 43219

RE: Knox County, Columbus Road, DOT 152071R  
DOT 152071R, PID 102157

Dear Mr. Hilborn:

A diagnostic review was held at the above grade crossing on November 4, 2015. The crossing has been recommended for the installation of flasher lights and gates.

~~CUOH~~  
~~Indiana & Ohio (I&O)~~ is authorized to proceed with the 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 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 minor roadway work necessary for MUTCD compliance should be incorporated into the PE and such costs will flow through the railroad reimbursement process

I am the Project Manager for this project and can be reached at (614) 644-0291, or Joe.Reinhardt@dot.state.oh.us, if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph N. Reinhardt".

Joseph N. Reinhardt  
Project Manager

Attachment: 1 (diagnostic review form)



# OHIO RAIL DEVELOPMENT COMMISSION

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

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

December 28, 2015

Mr. John Hilborn  
Vice President-Engineering, Ohio Valley Region Railroads  
Genesee & Wyoming/CUOH  
4349 Easton Way, Ste. 110  
Columbus, OH 43219

Subject: Grade Crossing Warning Device Improvement  
Knox County, Columbus Road  
US DOT # 152071R, PID 102157

Dear Mr. Hilborn:

A diagnostic review was conducted at the Columbus Road, DOT # 152071R, crossing on November 4, 2015. As a result of the review, the warning devices will be upgraded to flashing lights and roadway gates.

This project shall be completed in compliance with Agreement No. 0009-A dated May 28, 2001, entered into by the State of Ohio and Columbus and Ohio River Railroad (CUOH) and incorporated as if fully rewritten herein. This construction shall also meet the general terms and conditions under the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) 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 CUOH 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. CUOH 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 CUOH prior to ORDC issuing a PE authorization. PE and project estimate will be submitted by CUOH to ORDC within ninety (90) days or other time specified by ORDC in the PE authorization. Construction will not be commenced by CUOH prior to ORDC issuing a construction authorization. Construction will be completed by CUOH 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

The Columbus and Ohio River Rail Road Company

By: Charles McBain

Title: PRESIDENT

Date: 1-25-16

KNO Columbus Road PID 102157





## Diagnostic Review Team Survey

Reason for Survey:

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

Constituent

Date:

11/4/15

### Location Data

Street or Road Name:

Columbus Road

Route/Road Number

(i.e. Twp., Co., SR or US)

US DOT No.:

152071R

County:

KNO

Township:

City:

(In or Near)

City of Mt. Vernon

Railroad  
Name:

Cols & Ohio River Railroad

Railroad  
Division:

Louisville

Branch/Line  
Name:

Nearest RR

Timetable Station:

Mt. Vernon

RR Milepost:

24.16

### On-Site Review Team

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

1. Joe Bernhardt ORDC 614-644-0281
2. GEORGE MARTIN PDCO 614-752-9107
3. Gene P Honsky OHCR 740-502-7214
4. JEROD HILLER PATRICK ENG. 740-513-8510
5. Brendan C. Keener ORDC 614-728-8917
6. TIMOTHY B. TYSON CITY OF MOUNT VERNON 740-393-9528
7. D. R. BIRRELL OHCR 740-295-4122
8. \_\_\_\_\_
9. \_\_\_\_\_

### Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
'Stop' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Pavement Markings (condition?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Inventory Tags	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Emergency
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Safety Data (Obtain crash reports, if possible, prior to review)		
	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	0	
Hazard Ranking	3737	Date Run: 10/15/15 2550 11/3/15
Railroad Data		
Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	2	
< 1 per day		
Day thru trains	2	
Night thru trains		
Daytime switching movements		
Nighttime switching movements		
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks		
Maximum train speed	10	
Typical train speed	10	
Amtrak		
If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If multiple tracks, can two trains occupy crossing at the same time? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Can one train block the motorists' view of another train at crossing? <input type="checkbox"/> Yes (Explain below) <input checked="" type="checkbox"/> No		
Can one or more tracks be eliminated through the crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Are there other track(s) crossing this same roadway within 100 ft of this crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, Crossing DOT #(if different) _____		
If yes, distance _____ (take measurement between track centerlines at closest point along roadway)		
Roadway Data		
Local Highway Authority:		City of Mt. Vernon
Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	1892 (2011)	3222 5811
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: 20 ft.		
Number of highway lanes	2	
Urban or Rural	Urban	
Vehicle Speed: 35 MPH		
School Bus Operation: <input type="checkbox"/> No X Yes 25 Amount 15		
Hazardous Materials Trucks: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes .04% Amount		
Shoulders: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		
Is the shoulder surfaced? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is there existing guardrail along roadway in crossing vicinity? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is stopping site distance adequate? (See Table 2) <input 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 type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Is sidewalk present? <input type="checkbox"/> No <input checked="" 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 checked="" type="checkbox"/> No <input type="checkbox"/> Yes Are the signals currently interconnected with the existing crossing warning devices? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Is there a 'Do not Stop on Track' sign? <input checked="" 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: _____	
<b>Type of Development</b>	
<input type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Residential	<input type="checkbox"/> Institutional <input checked="" type="checkbox"/> Commercial Location of nearby schools: <div style="font-family: cursive; font-size: 1.2em; margin-top: 10px;">1/2 mile Columbusa Elementary</div>
<b>Utility Information</b>	
Is commercial power available? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Utility Provider (Company Name) _____ Phone Number _____ Nearest Available Power Source _____	
What other utilities are present? (add locations to sketch) <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Gas  <input type="checkbox"/> Petroleum  <input type="checkbox"/> Other _____         </div> <div> <input checked="" type="checkbox"/> Cable  <input checked="" type="checkbox"/> Water         </div> <div> <input checked="" type="checkbox"/> Telephone  <input checked="" type="checkbox"/> Sanitary Sewer         </div> <div> <input type="checkbox"/> Fiber Optic Cable         </div> </div>	
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):

Crossing Consolidation or Closure:

Real Estate or ROW:

Culverts / Drainage / Ballast Conditions:

Roadway and/or Sidewalks:

Sidewalks are on both north & south side of crossing. They are on outside of flashers.

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

Environmental:

Other:

JWR  
11-4-15

## Diagnostic Team Recommendations

	Quadrants Needed
<input checked="" type="checkbox"/> Install/upgrade active devices	
<input type="checkbox"/> Automatic Flashing Lights (AFLS)	
<input type="checkbox"/> AFLS / Cants	
<input type="checkbox"/> AFLS / Gates	
<input type="checkbox"/> AFLS / Gates / Cants	
<input checked="" type="checkbox"/> Bells / number	
<input checked="" type="checkbox"/> Upgrade circuitry / type	Possibly
<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:

Possible circuitry upgrade if the bike trail xing is install in the future. It's located north of xing. Funding to be discuss with mgt + RR at a later date.

☐ Install/upgrade traffic signal preemption

☐ No improvements needed

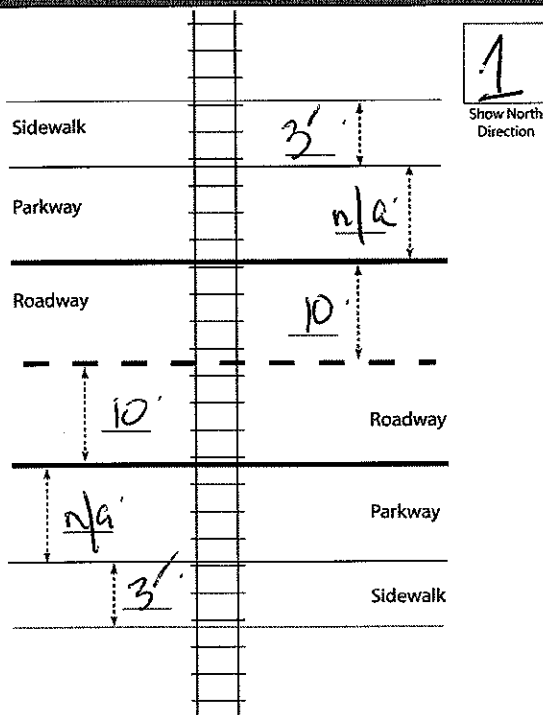
☒ Other (define)

City of Mt. Vernon will be reimburse for curbs if project goes forward.

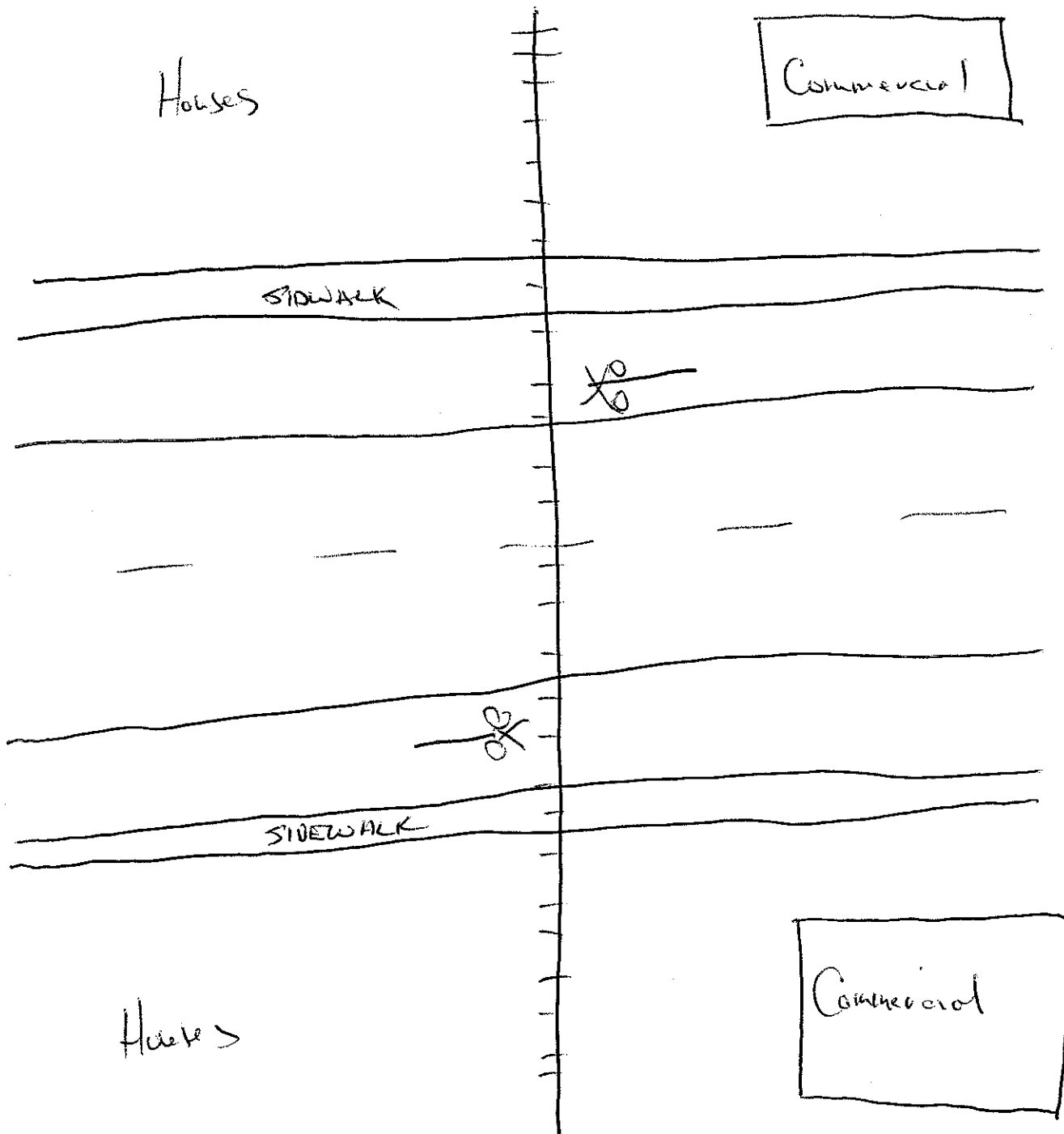
Acknowledgement of Recommendations (each entity represented at the diagnostic must have at least one signature acknowledgement):

JWR GM  
DLR TBT

## Field Dimensions



# Field Sketch



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

Sketch by: JP

TABLE I

## Clearing Sight Distances

Maximum Authorized Train Speed	Distance (dT) Along Railroad from Crossing (ft)
1 - 10	240
15	360
20	480
25	600
30	720
35	840
40	960
45	1080
50	1200
55	1320
60	1440
65	1560
70	1680
75	1800
80	1920
85	2040
90	2160

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

## Notes:

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

Distances indicated are for 65-ft double bottom semi-tractor trailers and level single track 90 degree crossings; and may need to be adjusted for multiple tracks, skewed crossings or approaches on grades.

Clearing Sight Distance is to be measured in each vehicle travel direction at non-gated crossings as viewed from a point 25 feet from centerline of nearest track in the center of whichever travel lane is nearest the direction along track being measured.

Table 2

## Stopping Sight Distances

Highway Vehicle Speed	Distance (dH) Along Roadway from Crossing (ft)
0	n/a
5	50
10	70
15	105
20	135
25	180
30	225
35	280
40	340
45	410
50	490
55	570
60	660
65	760
70	865

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

## Notes:

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

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

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

*John*  
11-4-15



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

**Commission of Ohio Docketing Information System on**

**3/8/2017 4:47:02 PM**

**in**

**Case No(s). 17-0686-RR-FED**

Summary: Memorandum In the Matter of a Request for the Installation of Active Warning Devices at the Columbus & Ohio River Railroad Crossing, DOT# 152-071R, Columbus Road in Knox County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division