

NC  
FILE

Public Utilities  
Commission of Ohio

# Memo

RECEIVED-DOCKETING DIV  
2014 MAY 29 AM 10:30  
PUCO

**To:** Docketing Division  
**From:** George Martin, Grade Crossing Planner, Rail Division  
**Re:** In the matter of the authorization of CSX Transportation to install an active grade crossing warning device in Butler County  
**Date:** May 29, 2014

The Ohio Rail Development Commission (ORDC) has authorized funding for CSX Transportation (CSX) to install **mast-mounted flashing lights and gates** at Butler County, near Trenton, Morganthaler Rd/CR 157, DOT# 152415C. The crossing was surveyed due to its hazard ranking on April 19, 2012, and was found to warrant the upgrade.

The project will be paid for with federal funds, and is actual cost. The plan and estimate for this project has been submitted approved. Due to significant engineering challenges noted at the time of the survey (roadway realignment and utility relocation) both ORDC and staff request a Finding & Order with completion due in **eighteen (18)** 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. 14- 960 -RR-FED In the matter of the authorization of CSX Transportation to install an active grade crossing warning device in Butler County

C: Legal Department

Please serve the following parties of record.

• Page 1 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 IN Date Processed MAY 29 2014

Ms Cathy Stout

Ohio Rail Development Commission

1980 W Broad St, Mailstop # 3140

Columbus, Oh 43223

Ms Amanda DeCeasare

CSX Transportation

1717 Dixie Hwy, Ste 400

Ft Wright, Ky 41011

Mr Mathew Loeffler

Butler County Engineer's Office

1921 Fairgrove Ave

Hamilton, OH 45011

Duke Energy

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

**TO:** George Martin, Rail Division, PUCO

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

**BY:** Tim Perkins, Project Manager *Tim Perkins*

**SUBJECT:** Butler County, BUT-CR 157, Morgenthaler Road-CSX, DOT No. 152 415 C, PID No. 96456

**DATE:** May 22, 2014

---

The Public Utilities Commission of Ohio (PUCO) established a diagnostic survey at the subject location on April 19, 2012. 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 plan and estimate as provided. Please issue a construction-only order for Eighteen Months (18) for the project outlined above for the necessary roadway work and utility relocations. This construction authorization is made with the stipulation and understanding that any field work needs prior approval before the work begins. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit.

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

- any ancillary work to make warning devices function as designed and visible to the roadway user, and
- MUTCD compliance – including minor roadway work if necessary.

Thank you for your assistance with these matters.

Attachment: Diagnostic Review  
Plan & Estimate



OPTION 3

Print Find Parcel # Find Culvert Find Subdivision Find Address Find Street



1200 1"=20' 0' 10' 20' 30' 40' 50' 60' 70' 80' 90' 100' 110' 120'

OPTION 3 - Remove  
Access & egress radius  
(Truck/Bus Turning  
restriction)

- 202 Pavement Removal 90 SF
- 203 Excavation 20 CY
- 204 Embankment 28 CY
- 205 Fill depth limit 70 LF
- 206 Sealing & mulching 90 SF
- 207 Pavement 475 SF
- 208 6" x 6" Support, Add 3 ft x 3 ft
- 209 Sign, Field Sheet 12.5 SF
- 210 Sealing & mulching 90 SF

**Morganthaler Road Railroad Crossing**  
Proposed Intersection Modification Cost Estimate

<b>OPTION 1 - RIGHT TURN EGRESS ONLY</b>					
ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT COST	TOTAL
202	PAVEMENT REMOVED	SY	20	\$10.00	\$200.00
203	EXCAVATION	CY	18	\$20.00	\$360.00
252	FULL DEPTH PAVEMENT SAWING	LF	200	\$5.00	\$1,000.00
301	ASPHALT CONCRETE BASE, PG64-22	CY	12	\$250.00	\$3,000.00
448	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22	CY	2.5	\$300.00	\$750.00
448	ASPHALT CONCRETE SURFACE COURSE, TYPE 1	CY	2.5	\$350.00	\$875.00
624	MOBILIZATION	LUMP	1	\$5,000.00	\$5,000.00
630	GROUND MOUNTED SUPPORT, NO. 3 POST	LF	32	\$10.00	\$320.00
630	SIGN, FLAT SHEET, TYPE G	S.F.	12.5	\$22.00	\$275.00
642	PAVEMENT MARKING	LUMP	1	\$600.00	\$600.00
659	TOPSOIL	CY	20	\$40.00	\$800.00
659	SEEDING AND MULCHING	SY	20	\$4.00	\$80.00
SPL	UTILITY POLE RELOCATION	EA	1	\$15,000.00	\$15,000.00
				<b>SUB-TOTAL =</b>	<b>\$28,260.00</b>
				<b>CONTINGENCY (10%)</b>	<b>\$2,826.00</b>
				<b>TOTAL=</b>	<b>\$31,086.00</b>
<b>OPTION 2 - COMBINED GATE OR 3RD GATE</b>					
ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT COST	TOTAL
202	PAVEMENT REMOVED	SY	17	\$10.00	\$170.00
203	EXCAVATION	CY	10	\$20.00	\$200.00
252	FULL DEPTH PAVEMENT SAWING	LF	100	\$5.00	\$500.00
624	MOBILIZATION	LUMP	1	\$5,000.00	\$5,000.00
630	GROUND MOUNTED SUPPORT, NO. 3 POST	LF	0	\$10.00	\$0.00
630	SIGN, FLAT SHEET, TYPE G	S.F.	0	\$22.00	\$0.00
642	PAVEMENT MARKING	LUMP	0	\$600.00	\$0.00
659	TOPSOIL	CY	17	\$40.00	\$680.00
659	SEEDING AND MULCHING	SY	17	\$4.00	\$68.00
				<b>SUB-TOTAL =</b>	<b>\$5,870.00</b>
				<b>CONTINGENCY (10%)</b>	<b>\$587.00</b>
				<b>TOTAL=</b>	<b>\$6,457.00</b>
<b>OPTION 3 - REMOVE ACCESS &amp; WIDEN RADIUS</b>					
ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT COST	TOTAL
202	PAVEMENT REMOVED	SY	90	\$10.00	\$900.00
203	EXCAVATION	CY	20	\$20.00	\$400.00
203	EMBANKMENT	CY	28	\$20.00	\$560.00
252	FULL DEPTH PAVEMENT SAWING	LF	70	\$5.00	\$350.00
301	ASPHALT CONCRETE BASE, PG64-22	CY	12	\$250.00	\$3,000.00
448	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22	CY	2.5	\$300.00	\$750.00
448	ASPHALT CONCRETE SURFACE COURSE, TYPE 1	CY	2.5	\$350.00	\$875.00
624	MOBILIZATION	LUMP	1	\$5,000.00	\$5,000.00
630	GROUND MOUNTED SUPPORT, NO. 3 POST	LF	32	\$10.00	\$320.00
630	SIGN, FLAT SHEET, TYPE G	S.F.	12.5	\$22.00	\$275.00
642	PAVEMENT MARKING	LUMP	1	\$600.00	\$600.00
659	SEEDING AND MULCHING	SY	90	\$2.00	\$180.00
SPL	UTILITY POLE RELOCATION	EA	2	\$15,000.00	\$30,000.00
				<b>SUB-TOTAL =</b>	<b>\$43,210.00</b>
				<b>CONTINGENCY (10%)</b>	<b>\$4,321.00</b>
				<b>TOTAL=</b>	<b>\$47,531.00</b>



## Diagnostic Review Team Survey

Date: 4.19.12

### Location Data

Street or Road Name: <u>Morganthaler Road</u>			
Route/Road Number (i.e. Twp., Co., SR or US) <u>CR 157</u>		US DOT No.: <u>152415C</u>	
County: <u>Butler (BUT)</u>	Township:	City: (In or Near)	
Railroad Name: <u>CSX Transportation</u>	Railroad Division: <u>Louisville</u>	Branch/Line Name:	
Nearest RR Timetable Station: <u>Overpeck</u>		RR Milepost: <u>31.34</u>	

### On-Site Review Team

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

1. Tim Perkins – ORDC – 614.580.7749 – tim.perkins@dot.state.oh.us
2. Dwight Schroeder – 419-615-8436 – Dwight-Schroeder@csx.com
3. George Martin 614-752-9107 PUCO
4. Amanda DeCesare 859-344-8442 CSX amanda\_decesare@csx.com
5. Matthew Loeffler 513-788-4109 BCEO mloeffler@bceo.org
6. \_\_\_\_\_
7. \_\_\_\_\_
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	
'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 type="checkbox"/> No	
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Number of Tracks Signs	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Inventory Tags	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Cantilever Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Automatic Gates	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Bells	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number:
Sidewalk Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'No Turn' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Illumination	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

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

	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	1 (8/7/2011)	
Hazard Ranking	11	Date Run: 3/7/2012

**Railroad Data**

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	28	
< 1 per day		
Day thru trains	12	
Night thru trains	12	
Daytime switching movements	4	
Nighttime switching movements	0	
Total number of tracks		
Number of main tracks	2	
Number of other tracks	0	
Maximum train speed	50	
Typical train speed		
Amtrak		

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

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: **Butler County**

Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	890 (2011)	
Highway paved	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: <input checked="" type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete <input type="checkbox"/> Other _____		
Roadway width: <u>18</u> ft.		
Number of highway lanes	2	
Urban or Rural	Rural	
Vehicle Speed: <u>55</u> MPH		
School Bus Operation: <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes _____ Amount		
Hazardous Materials Trucks: <input type="checkbox"/> No <input type="checkbox"/> Yes _____ Amount <i>Unknown</i>		
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No If no, deficient approach(es) _____		

*approach to Riverside from Trenton is blocked because of angle and brush.*



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 type="checkbox"/> Yes <u>Unknown</u>	
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 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 checked="" type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Residential	<input type="checkbox"/> Institutional <input type="checkbox"/> Commercial Location of nearby schools: _____
Utility Information	
Is commercial power available? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Utility Provider (Company Name) <u>DUKE</u> Phone Number _____ Nearest Available Power Source _____ What other utilities are present? <u>Clear according to markings</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: <u>Pole 5 may be relocated to remove one leg of the intersection.</u> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">           B T 2 3 8 E         </div> <div> <u>The crossing surface does not need to be widened by CSX track.</u> </div> </div>	

## Potential Red Flags / Project Challenges

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

N/A

Crossing Consolidation or Closure:

N/A

Real Estate or ROW:

N/A

Culverts / Drainage / Ballast Conditions:

N/A

Roadway and/or Sidewalks:

N/A

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

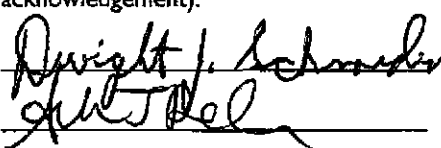
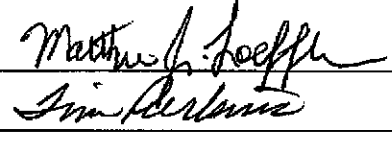
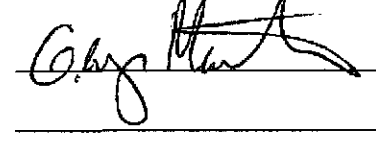
N/A

Environmental:

Other:

One leg of intersection may be removed by County.  
The surface will need to be widened by  
CSX track.

## Diagnostic Team Recommendations

	Quadrants Needed
<input type="checkbox"/> Install/upgrade active devices	
<input type="checkbox"/> Automatic Flashing Lights (AFLS)	
<input type="checkbox"/> AFLS / Cants	
<input checked="" type="checkbox"/> AFLS / Gates	
<input type="checkbox"/> AFLS / Gates / Cants	
<input type="checkbox"/> Bells / number	
<input type="checkbox"/> Upgrade circuitry / type	
<input type="checkbox"/> Sidelights	
<input type="checkbox"/> Guardrail Needed	
<input type="checkbox"/> Install/Replace curb	
<input type="checkbox"/> Bungalow placement & offset from rail & highway	
<input type="checkbox"/> Other (define)	
Comments:	
<input type="checkbox"/> Install/upgrade traffic signal preemption	
<input type="checkbox"/> No improvements needed	
<input type="checkbox"/> Other (define)	
<p>Acknowledgement of Recommendations (each entity represented at the diagnostic must have at least one signature acknowledgement):</p> <p>    </p>	

# Field Dimensions

The diagram shows a cross-section of a road with a central vertical line. On the left side, from top to bottom, are the labels: Sidewalk, Parkway, Roadway, Roadway, Parkway, and Sidewalk. On the right side, from top to bottom, are the labels: Sidewalk, Parkway, and Roadway. Measurement lines with arrows are shown between the boundaries of these sections. A box labeled 'Show North Direction' is located in the top right corner.

*See page 7*

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

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

## Field Sketch

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

*Riverside*

*Stop*



*Stop*

*CR 157*

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

Sketch by: *JP*

**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.