

NC  
FILE

25

**Public Utilities  
Commission of Ohio**

# Memo

PUCO

2014 MAY 29 AM 10:30

RECEIVED-DOCKETING DIV

**To:** Docketing Division  
**From:** George Martin, Grade Crossing Planner, Rail Division  
**Re:** In the matter of the authorization of Norfolk Southern Railway to install active grade crossing warning devices in Hamilton County as part of the CJ Corridor Project  
**Date:** May 29, 2014

The Ohio Rail Development Commission (ORDC) has authorized funding for Norfolk Southern Railway (NS) to install mast-mounted flashing lights and roadway gates at Hamilton County, City of Sharonville, Main St, DOT# 524713G, and Hamilton County, Village of Lockland, Dunn St, DOT# 524723M. The crossings were surveyed on May 2, 2013, and were found to warrant upgrades as part of the CJ Corridor improvement project.

The projects will be paid for with federal funds, and are actual cost. As the plans and estimates have already been submitted and approved, staff requests a Finding & Order with completion of the projects 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. 14- 961 -RR-FED In the matter of the authorization of Norfolk Southern Railway to install active grade crossing warning devices in Hamilton County as part of the CJ Corridor Project

C: Legal Department

Please serve the following parties of record

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 TM Date Processed MAY 29 2014

Ms Cathy Stout

Ohio Rail Development Commission

1980 West Broad St, Mailstop #3140

Columbus, Oh 43223

Ms Cayela Wimberly

Norfolk Southern Railway

1200 Peachtree St, Box 123

Atlanta, Ga 30309

Mr D Casey Talbot

Eastman & Smith Ltd

One Seagate, 24th Floor

PO Box 10032

Toledo, Oh 43699-0032

Mr Joe Kempe, Public Works Director

10900 Reading Road

Sharonville, OH 45241

Mr Dean Walden, Public Works Director

101 N Cooper Ave

Lockland, Oh 45215

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:** City of Sharonville, Hamilton County, HAM-Main Street, NS, DOT No. 524  
713 G, PID No. 96032  
**DATE:** May 27, 2014

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*ORDC GM*

The ~~Public Utilities Commission of Ohio (PUCO)~~ established a diagnostic survey at the subject location on May 2, 2013. ~~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.

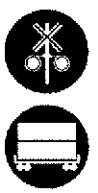
PE has already been provided by the railroad. ORDC approves the site plan and estimate as provided. Please issue a construction-only order for the project outlined above. This construction authorization is made with the stipulation and understanding that any field work needs prior approval before the 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



# OHIO RAIL DEVELOPMENT COMMISSION

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

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

May 27, 2014

Cayela J. Wimberly  
Administrator, Highway Grade Crossings  
Norfolk Southern Corporation  
1200 Peachtree Street, N.E., Box 123  
Atlanta, Georgia 30309

RE: City of Sharonville, Hamilton County, Main Street, DOT No. 524 713 G, PID 96032,  
Mile Post: CJ 246.20, S&E Project No. 10.2115

Dear Ms. Wimberly:

The Norfolk Southern (NS) plan and estimate dated May 2, 2013, in the amount of \$40,375.00 for the referenced project has been reviewed and is acceptable. NS 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 \$30,281.25. Additional costs must be approved in writing by the ORDC prior to being incurred. Emergency verbal authorizations by ORDC may be permitted and will be confirmed by ORDC in writing within ten (10) business days of the verbal approval.

This authorization is contingent upon NS accepting the following instructions:

1. NS will furnish prior written notification of their scheduled date to start construction to George Martin, PUCO, Railroad Division.
2. NS's project foreman will furnish FAX or written notification five (5) working days prior to the date work will start at the project site to Tim Perkins, Ohio Rail Development Commission (ORDC), 1980 West Broad Street, Columbus, Ohio 43223, email [Tim.Perkins@dot.state.oh.us](mailto:Tim.Perkins@dot.state.oh.us) or FAX (614) 728-4520, (telephone number 614-644-0284), and to the Public Utilities Commission of Ohio at 180 East Broad Street, Columbus, Ohio 43215, email [George.martin@puc.state.oh.us](mailto:George.martin@puc.state.oh.us), (telephone number 614-752-9107). 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.
3. NS will arrange for utilities to be located at the project site by the Ohio Utilities Protection Service (OUPS) prior to any construction activities at the site. Utilities that are not participating members of the service must be contacted directly by NS.
4. NS's project foremen will notify Tim Perkins 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.



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

phone: 614.644.0306

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

Thank you for your assistance with these matters.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Perkins". The signature is written in a cursive, flowing style.

Tim Perkins  
Project Manager

C: George Martin, PUCO, Grade Crossing Planner  
ORDC (file)



## Diagnostic Review Team Survey

**Reason for Survey:**

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

C.J. Corridor

Date: 5/2/13

### Location Data

Street or Road Name: Main St.			
Route/Road Number (i.e. Twp., Co., SR or US)		US DOT No.: 524713G	
County: HAM	Township:	City: (In or Near)	Sharonville
Railroad Name: Norfolk Southern	Railroad Division: Dearborn	Branch/Line Name: Cincinnati LI	
Nearest RR Timetable Station: Sharonville		RR Milepost: 246.2	

### On-Site Review Team

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

1. Joe Kemp, Sharonville - 513-678-1563
2. Chad Meadows, Sharonville - 513-678-1558
3. *Jim Perkins*
4. *Jim Gull*
5. *Jim Kous*
6. *Joe Kemp*
7. *Perrick Drake NS*
8. *Nick Gull NS*
9. *GEORGE MARTIN PUCO 614-752-9107*

### 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 type="checkbox"/> No	
Pavement Markings (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	2-track
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Cantilever Flashing Lights	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Number: 2 Length:
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Automatic Gates	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Number: Length:
Bells	<input checked="" type="checkbox"/> Yes	<input 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 checked="" type="checkbox"/> Yes	<input 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 (6/1/98)	
Hazard Ranking	474 Date Run: 4/18/13	

**Railroad Data**

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	18	
< 1 per day		
Day thru trains	6	
Night thru trains	10	
Daytime switching movements	2	
Nighttime switching movements	0	
Total number of tracks	2	
Number of main tracks	2	
Number of other tracks	0	
Maximum train speed	40	
Typical train speed		
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: Village of Sharonville

Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	6381 (2006)	
Highway paved	X Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: Blacktop <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Concrete <input type="checkbox"/> Other _____		
Roadway width: <u>84</u> ft.		
Number of highway lanes	<u>2</u>	<u>4</u>
Urban or Rural	Urban	
Vehicle Speed: <u>35</u> MPH		
School Bus Operation: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Amount <u>Unknown</u>		
Hazardous Materials Trucks: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Amount _____		
Shoulders: <input type="checkbox"/> No <input type="checkbox"/> Yes		
Is the shoulder surfaced? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is there existing guardrail along roadway in crossing vicinity? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is stopping site distance adequate? (See Table 2) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If no, deficient approach(es) <u>angle of track</u>	

3



## 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:

Curb + sidewalk by Sharonville but

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

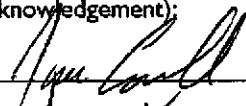

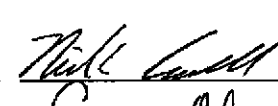
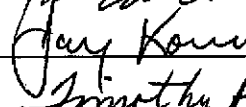
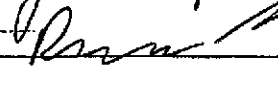
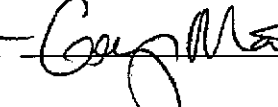
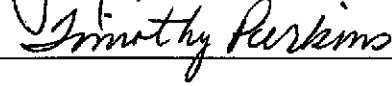
N/A

Environmental:

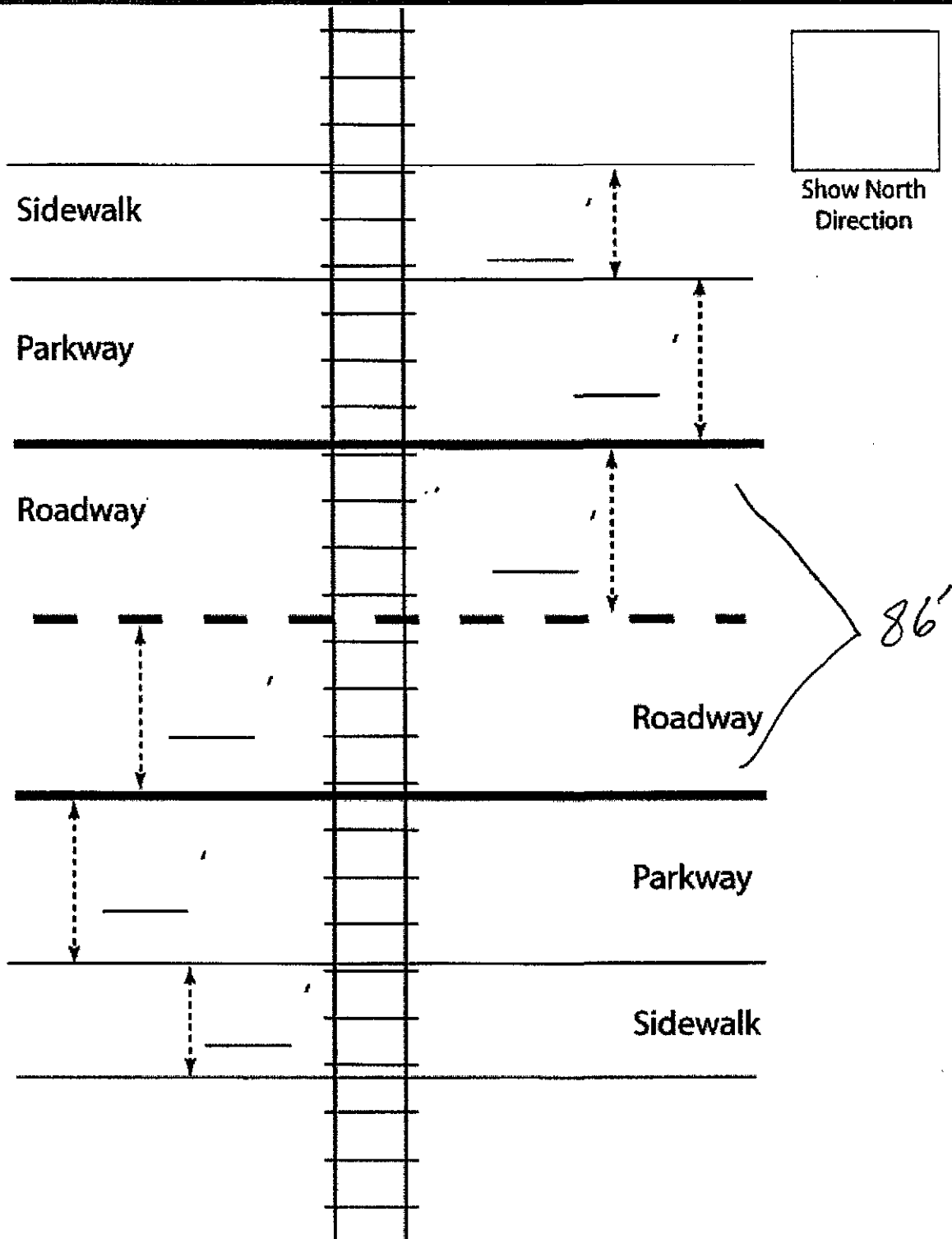
N/A

Other:

## 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 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 checked="" type="checkbox"/> Other (define)	
Comments: <i>Existing Cantilevers, lights and Gates upgraded. i.e... new gate mechs, new lights on cantilevers. and use the existing circuitry.</i>	
<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):       	

# Field Dimensions



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.

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

Sketch by: \_\_\_\_\_

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.

**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:** Village of Lockland, HAM-Dunn Street, NS, DOT No. 524 723 M,  
PID No. 96023  
**DATE:** May 27, 2014

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*ORDC Gm*

The ~~Public Utilities Commission of Ohio (PUCO)~~ established a diagnostic survey at the subject location on May 2, 2013. 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.

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- MUTCD compliance – including minor roadway work if necessary.

Thank you for your assistance with these matters.

Attachment: Diagnostic Review  
Plan & Estimate



# OHIO RAIL DEVELOPMENT COMMISSION

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

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

May 27, 2014

Cayela J. Wimberly  
Administrator, Highway Grade Crossings  
Norfolk Southern Corporation  
1200 Peachtree Street, N.E., Box 123  
Atlanta, Georgia 30309

RE: Village of Lockland, Hamilton County, Dunn Street, DOT No. 524 723 M, PID 96023,  
Mile Post: CJ 250.30, S&E Project No. 10.2117

Dear Ms. Wimberly:

The Norfolk Southern (NS) plan and estimate dated April 21, 2014, in the amount of \$170,919.00 for the referenced project has been reviewed and is acceptable. NS 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 \$128,189.25. Additional costs must be approved in writing by the ORDC prior to being incurred. Emergency verbal authorizations by ORDC may be permitted and will be confirmed by ORDC in writing within ten (10) business days of the verbal approval.

This authorization is contingent upon NS accepting the following instructions:

1. NS will furnish prior written notification of their scheduled date to start construction to George Martin, PUCO, Railroad Division.
2. NS's project foreman will furnish FAX or written notification five (5) working days prior to the date work will start at the project site to Tim Perkins, Ohio Rail Development Commission (ORDC), 1980 West Broad Street, Columbus, Ohio 43223, email [Tim.Perkins@dot.state.oh.us](mailto:Tim.Perkins@dot.state.oh.us) or FAX (614) 728-4520, (telephone number 614-644-0284), and to the Public Utilities Commission of Ohio at 180 East Broad Street, Columbus, Ohio 43215, email [George.martin@puc.state.oh.us](mailto:George.martin@puc.state.oh.us), (telephone number 614-752-9107). 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.
3. NS will arrange for utilities to be located at the project site by the Ohio Utilities Protection Service (OUPS) prior to any construction activities at the site. Utilities that are not participating members of the service must be contacted directly by NS.
4. NS's project foremen will notify Tim Perkins 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.



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phone: 614.644.0306

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

Thank you for your assistance with these matters.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Perkins". The signature is written in a cursive, flowing style.

Tim Perkins  
Project Manager

C: George Martin, PUCO, Grade Crossing Planner  
ORDC (file)





## Diagnostic Review Team Survey

**Reason for Survey:**

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

C.J. Corridor

Date: 5/2/13

### Location Data

Street or Road Name: <b>Dunn Street</b>			
Route/Road Number (i.e. Twp., Co., SR or US)		US DOT No.: <b>524723M</b>	
County: <b>HAM</b>	Township:	City: (In or Near)	<b>Lockland</b>
Railroad Name: <b>Norfolk Southern</b>	Railroad Division: <b>Dearborn</b>	Branch/Line Name:	<b>Cincinnati LI</b>
Nearest RR Timetable Station: <b>Evendale</b>		RR Milepost: <b>250.5</b>	

### On-Site Review Team

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

1. **Jim Reskema** **ORDC** **614-644-0284**
2. **Dean Walden** **Lockland** **513-733-0957**
3. **DAN Schuster** **Lockland** **513-721-5500**
4. **Perrin Drake** **NS** **304-712-0220**
5. **DAVID Keyser** **LOCKLAND** **513 474 1146**
6. **DONALD DARRON** **ORDC** **614 466 2509**
7. **Nick Cowell** **NS**
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Inventory Tags	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Mast-Mounted Flashing Lights	<input checked="" type="checkbox"/> Yes	<input 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Number:	Length:
Bells	<input checked="" type="checkbox"/> Yes	<input 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		

Other	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Safety Data (Obtain crash reports, if possible, prior to review)</b>		
	<b>Initial Information (from database)</b>	<b>Revised</b>
Number & dates of crashes in previous 5 years	0	
Hazard Ranking	1731	Date Run: 4/18/13
<b>Railroad Data</b>		
<b>Railroad Characteristics</b>	<b>Initial Information (from database)</b>	<b>Revised</b>
Total trains per day	18	40
< 1 per day		
Day thru trains	6	
Night thru trains	10	
Daytime switching movements	2	
Nighttime switching movements	0	
Total number of tracks	2	
Number of main tracks	2	
Number of other tracks	0	
Maximum train speed	40	
Typical train speed		
Amtrak		
If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) <input type="checkbox"/> Yes <input type="checkbox"/> No		
If multiple tracks, can two trains occupy crossing at the same time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Can one train block the motorists' view of another train at crossing? <input checked="" type="checkbox"/> Yes (Explain below) <input 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 type="checkbox"/> No		
If yes, Crossing DOT #(if different) _____		
If yes, distance _____ (take measurement between track centerlines at closest point along roadway)		
<b>Roadway Data</b>		
Local Highway Authority:		Village of Lockland
<b>Roadway Characteristics</b>	<b>Initial Information (from database)</b>	<b>Revised</b>
Average daily traffic	1001 (2006)	
Highway paved	X Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete <input type="checkbox"/> Other _____		
Roadway width: _____ ft.	47' 31'	
Number of highway lanes	2	
Urban or Rural	Urban	
Vehicle Speed: 25 MPH		
School Bus Operation: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes _____ Amount		
Hazardous Materials Trucks: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes _____ Amount		
Shoulders: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is the shoulder surfaced? <input 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 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 type="checkbox"/> No <input type="checkbox"/> Yes Explain reasons: _____	
<b>Type of Development</b>	
<input checked="" 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: _____
<b>Utility Information</b>	
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? (add locations to sketch) <input type="checkbox"/> Gas <input type="checkbox"/> Cable <input type="checkbox"/> Telephone <input type="checkbox"/> Fiber Optic Cable <input type="checkbox"/> Petroleum <input type="checkbox"/> Water <input type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Other _____	
Is(are) there potential utility conflict(s) <input type="checkbox"/> Yes <input type="checkbox"/> No <input 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):

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:

N/A

Other:

## Diagnostic Team Recommendations

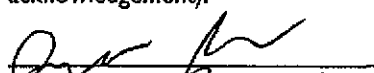
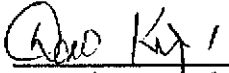
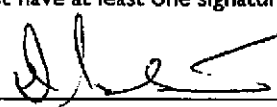

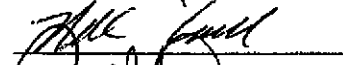
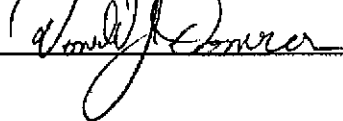
### Quadrants Needed

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

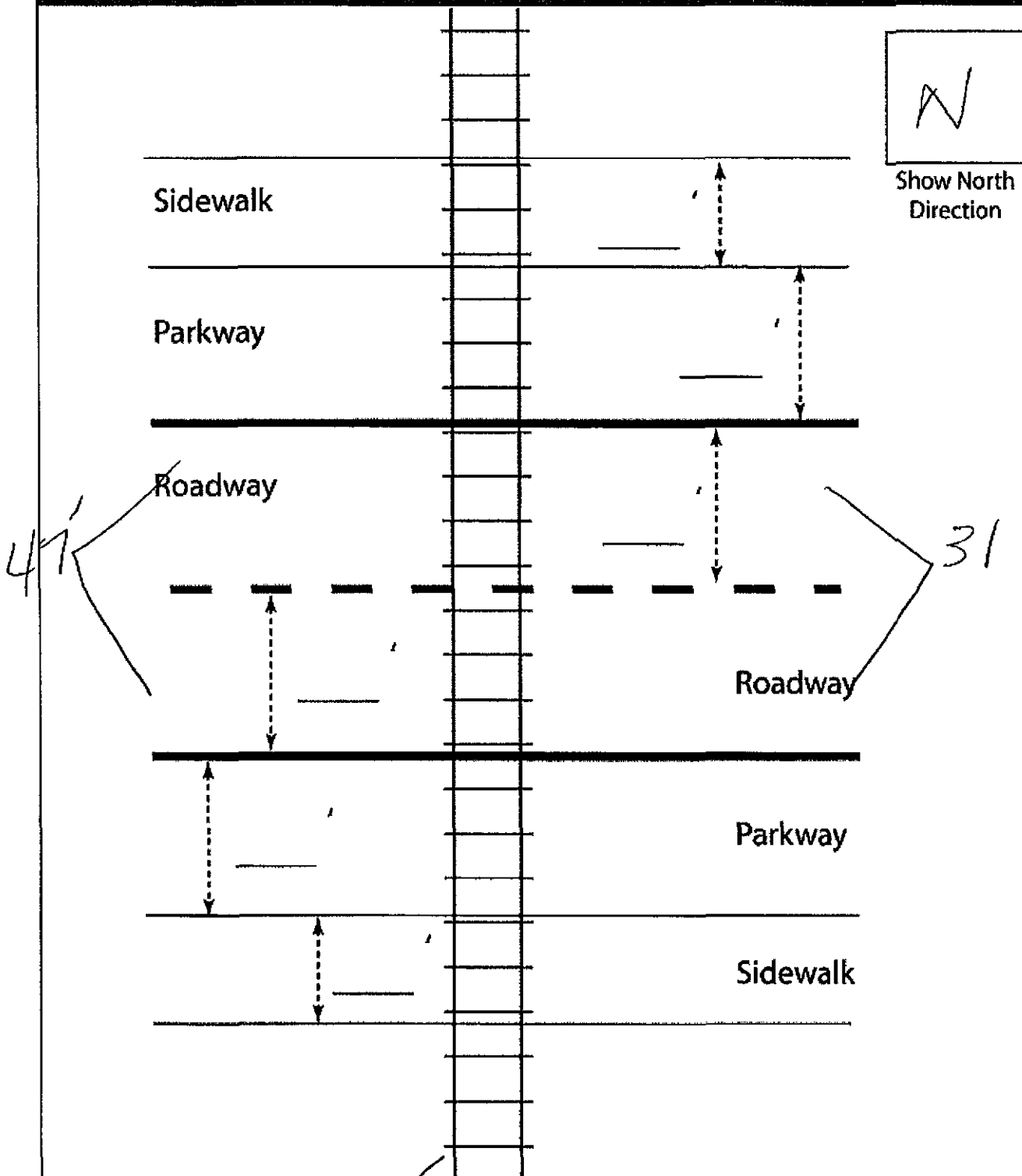
Comments:

- |  |  |
|--|--|
| <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):

# Field Dimensions



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.

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

Sketch by: \_\_\_\_\_

**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.



HAM Dunn St. DOT 524723M

