

***DATA***

***NEEDS***

***ANALYSIS***

***STUDY***



**KENTUCKY  
TRANSPORTATION  
CABINET**

**NICHOLAS COUNTY  
ITEM NO. 09-205.0**

RECONSTRUCT KY 36-  
KY 32 NEAR THE  
NICHOLAS COUNTY  
SCHOOLS PROPERTY.  
MP 3.10 TO MP 3.283.  
(12CCR)



**I. PRELIMINARY PROJECT INFORMATION**

<b>County:</b>	Nicholas	<b>Item No.:</b>	09-0205.0
<b>Route Number(s):</b>	KY 36 & KY 32	<b>Road Name:</b>	W. Main Street
<b>Program No.:</b>	8670101D	<b>UPN:</b>	FD52 091 036 003-004
<b>Federal Project No.:</b>	STP 5214(003)	<b>Type of Work:</b>	Grade & Drain

2012 Highway Plan Project Description:

RECONSTRUCT KY 36-KY 32 NEAR THE NICHOLAS COUNTY SCHOOLS PROPERTY. MP 3.10 TO MP 3.283. (12CCR)

<b>Beginning MP:</b>	3.1	<b>Ending MP:</b>	3.283	<b>Project Length:</b>	0.33
<b>Functional Class.:</b>	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural Collector	<b>State Class.:</b>	<input checked="" type="checkbox"/> Primary <input type="checkbox"/> Secondary	<b>Route is on:</b>	<input type="checkbox"/> NHS <input type="checkbox"/> Nat'l Truck Network
<b>MPO Area:</b>	Not Applicable	<b>Truck Class.:</b>	AAA	<b>% Trucks:</b>	7.40%
<b>In TIP:</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Terrain:</b>	Rolling	<b>Access Control:</b>	<input type="checkbox"/> Fully Controlled <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Partial Spacing:
<b>ADT (current):</b>	7451 (2010)	<b>Median Type:</b>	<input checked="" type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type):	<b>Existing Bike Accommodations:</b>	Shared Lane
<b>Posted Speed:</b>	<input checked="" type="checkbox"/> 35 mph <input checked="" type="checkbox"/> 45 mph <input type="checkbox"/> 55 mph	<b>Ped:</b>	<input checked="" type="checkbox"/> Sidewalk	<b>Other (Specify):</b>	25 (School)
<b>KYTC Guidelines Preliminarily Based on :</b> 35 MPH Proposed Design Speed					

**COMMON GEOMETRIC**

Roadway Data:	EXISTING	PRACTICES*	
No. of Lanes	2	2	<a href="#">Existing Rdwy. Plans available?</a> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Year of Plans: _____ <input checked="" type="checkbox"/> <a href="#">Traffic Forecast Requested</a> Date Requested: 10/3/2012 <input type="checkbox"/> Mapping Requested Date Requested: _____ Type: _____
Travelled Way Width	22'	24'	
Shoulder Width	0	8'	
Max. Superelevation**		8%	
Minimum Radius**		350	
Maximum Grade		6%	
Minimum Sight Dist.		275	
Sidewalk Width(urban)	4'	5'	
Clear-zone***	1'	30'	
<b>Project Notes/Design Exceptions?:</b>			

\*Based on proposed Design Speed, \*\*AASHTO's A Policy on Geometric Design of Highways and Streets, \*\*\*AASHTO's Roadside Design Guide

Bridge No.*:	(Bridge #1)	(Bridge #2)	
Sufficiency Rating	65		<a href="#">Existing Geotech data available?</a> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No * If more than 2 bridges are present on project, see attached sheets.
Total Length	65		
Width, curb to curb	23		
Span Lengths	2 x 29.9 (approx)		
Max. Span Length	29.9		
Year Built	1932		
Posted Weight Limit	N/A		
Structurally Deficient?	No		
Functionally Obsolete?	Yes		

**II. PROJECT PURPOSE AND NEED**

**A. Legislation**

The following funding was listed in the 2012 Highway Plan	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	STP	D	2012	\$750,000
	STP	R	2012	\$1,000,000
	STP	U	2012	\$850,000
	STP	C	2012	\$4,500,000

**B. Project Status**

Design funds were authorized in July, 2012. The project will be advertised to consultants.

**C. System Linkage**

KY 36 is classified as a Rural Major Collector and connects Carlisle to the community hospital and US 68 to the northwest and Moorefield, Owingsville, and I-64 to the southeast. KY 32 is also classified as a Rural Major Collector and also connects Carlisle to US 68 to the northwest and Flemingsburg to the northeast.

**D. Modal Interrelationships**

N/A

**E. Social Demands & Economic Development**

One of the primary concerns involved in the project is the Nicholas County School System property and entrances that fall within the limits of the intersection in the northeast corner. This property contains the Nicholas County Elementary School, the Nicholas County Middle & High School, as well as the Nicholas County Board of Education and Central Office. To the south of the Intersection, there is a gas station/convenience store whose entrance is currently a part of the intersection. There is a potential for further economic development in the area.

**F. Transportation Demand**

The last traffic count near this intersection was 7451 and was performed in 2010.

## II. PROJECT PURPOSE AND NEED (cont.)

### G. Capacity

The intersection capacity is sufficient for current traffic volumes. However, the current intersection geometry causes some awkward turning movements, which can cause backups and delays.

### H. Safety

KY 36 has a Critical Rate for Fatalities of 0.4130, having had 4 fatal accidents within the computed period, and a Critical Rate for all accidents of 0.3530. KY 32 has a Critical Rate for all accidents of 0.5730 with no data available for fatalities. The intersection has relatively low sight distance coming from certain directions with difficult sight angles in most directions.

### I. Roadway Deficiencies

KY 36 and KY 32 both have 10' travel lanes outside the intersection limits, but carry 11' lanes through the intersection. Neither width meets current design standards. Neither road has sufficient shoulders.

### Purpose and Need Statement:

**Need:** This project is necessary due to the poor intersection alignment, poor sight distance/angles, high traffic volume, and the major school system access points that fall within the intersection limits.

**Purpose:** The purpose of this project is to reconstruct the intersection and approaches as necessary to achieve adequate sight distance, proper sight angles, increased throughput, and to provide better access to the school system.

## III. PRELIMINARY ENVIRONMENTAL OVERVIEW

**A. Air Quality**

Project is in:  Attainment area  Nonattainment or Maintenance Area  PM 2.5 County

STIP Pg.#: Pg 99 of 127 FY2013-16

TIP Pg.#:

**B. Archeology/Historic Resources**

Known Archeological or Historic Resources are present

There are no known archaeology sites or NRHP listed properties within the anticipated project limits. Portions of the school property appear to be potentially eligible, and there appeared to be several homes that could be potentially eligible. Additionally, Carlisle has a listed Historic District that could be near the anticipated project limits. Further investigation of the APE (Area of Potential Effect) will be required once the project limits are better defined.

**C. Threatened and Endangered Species**

Indiana bat, fanshell mussel, Northern riffleshell mussel, pink mucket mussel, clubshell mussel, sheepnose mussel, rough pigtoe mussel, Short's goldenrod, and running buffalo clover are federally threatened or endangered species that are listed for Nicholas County. It is likely that a No Effect finding can be prepared for the freshwater mussel species because the affected streams appears to have a bedrock substrate, which might not provide adequate habitat for their survival. However, if looking solely at the wetted width of the stream, then a mussel survey by a biologist could be warranted. A Biological Assessment could be needed for Short's goldenrod and running buffalo clover. It is expected that an Indiana Bat Conservation Memorandum of Agreement to include tree clearing restrictions and/or payment into the IBCF can be used to compensate for potential impacts to Indiana bat habitat.

**D. Hazardous Materials**

Potentially Contaminated Sites are present  Potential Bridge or Structure Demolition

An active gas station and a car repair garage are present in the southern quadrants of the project. A Phase II Environmental Site Assessment may be warranted if impacts to either of these properties are unavoidable. One bridge/culvert could require replacement and therefore will be demolished. It is primarily composed of concrete. It will need to be inspected to determine if it contains ACMs.

**G. Permitting**

Check all that may apply:  Waters of the US  MS4 area  Floodplain Impacts  Navigable Waters of the US Impacts  
Are 401/404 Permits likely to be required?  Yes  No Impacts to:  Wetlands  Stream/Lake/Pond  
 ACE LON  ACE NW  ACE IP  DOW IWQC  Special Use Waters

Brushy Fork is a blueline stream that is located between KY 36 and KY 32 within the project limits. The type of Section 404/401 permit that will be required will depend upon how the intersection is realigned/reconstructed. It could be plausible to anticipate that the stream will need to be realigned, which might warrant an ACE IP and a DOW IWQC. However, if the routes are kept close to the same locations, then it is possible that only an ACE LON would be needed for the one crossing of the stream.

**H. Noise**

Are noise sensitive receivers adjacent to the proposed project?  Yes  No

Schools, offices, churches, businesses and residences.

**I. Socioeconomic**

Check all that may apply:  Low Income/Minority Populations affected  Relocations  Local Land Use Plan available

No relocations are expected to be necessary for the construction of this project. Therefore, there should be no Environmental Justice issues.

**J. Section 4(f) or 6(f) Resources**

The following are present on the project:  Section 4(f) Resources  Section 6(f) Resources

Several parks, some which have used LWCF money, are located outside the anticipated project limits. If the anticipated project limits should change, an investigation into ownership and also use of LWCF will need to be completed to determine if Section 4(f) or 6(f) evaluations might be required. At this time, neither are expected.

**Anticipated Environmental Document:** CE Level 1



**IV. POSSIBLE ALTERNATIVES**

**A. Alternative 1: No Build**

**B. Alternative 2**

Insert Alt. Picture/Sketch here

Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	
R/W	
Utilities	
Const	
<b>Total</b>	

**IV. POSSIBLE ALTERNATIVES (cont.)**

**B. Alternative #3**

Insert Alt. Picture/Sketch here

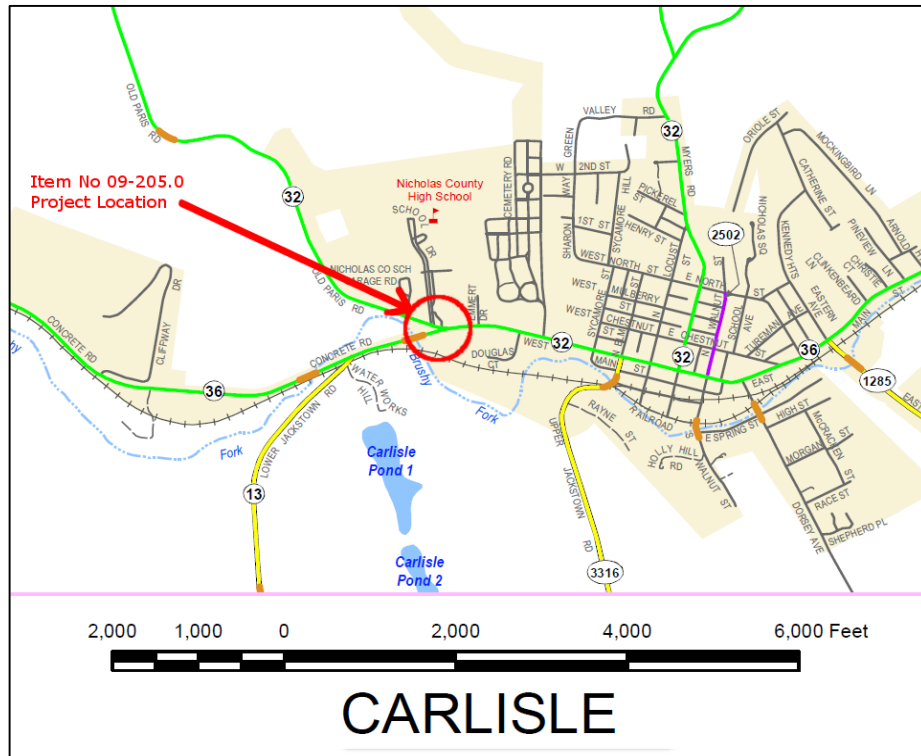
Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	
R/W	
Utilities	
Const	
<b>Total</b>	

**V. Summary**

Alt #	Description	D (\$)(Fund)	R (\$)(Fund)	U (\$)(Fund)	C (\$)(Fund)	Total (\$mil)
1		-	-	-	-	-
2						
3						
-	Current Hwy Plan Estimated Cost					
-	Current Pre-Con Estimated Cost					

**VI. Tables and Exhibits**



**Exhibit 1: Project Location Map**



**Exhibit 2: Project Photo**



# PROJECT LOCATION MAP

## NICHOLAS COUNTY ITEM NO. 09-205.0

RECONSTRUCT KY 36-KY 32 NEAR  
THE NICHOLAS COUNTY SCHOOLS  
PROPERTY. MP 3.10 TO MP 3.283.  
(12CCR)

