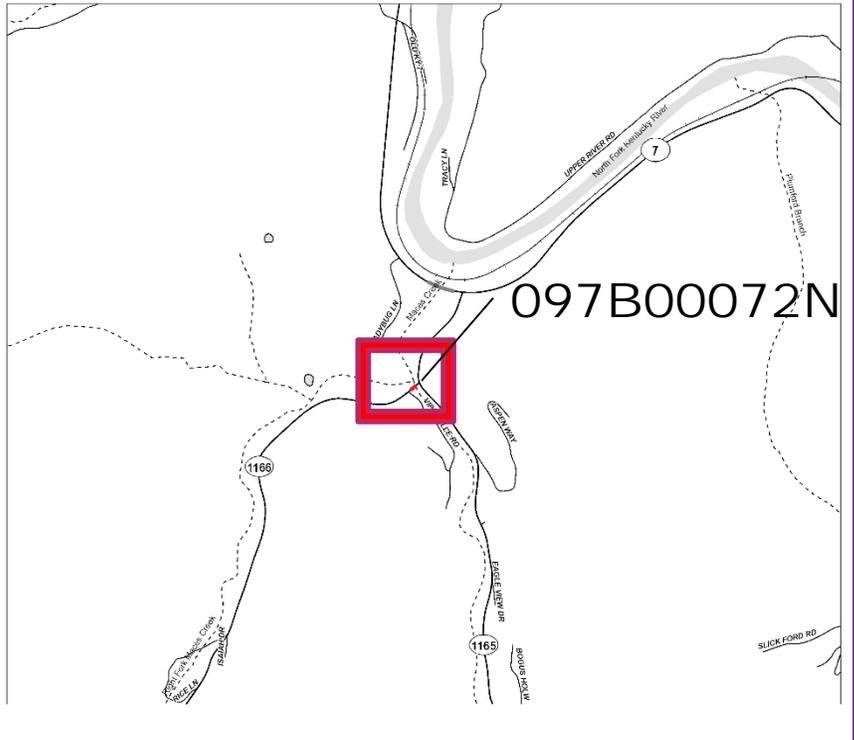
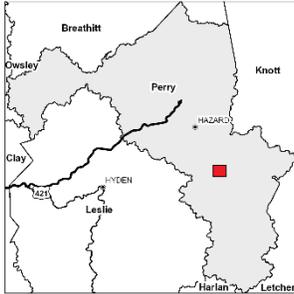


**D**ata

**N**eeds

**A**nalysis



## Scoping Study



KY 1166, Perry County  
Bridge Replacement  
Item No. 10-8913.00

Prepared by  
KYTC District 10

June 2016



I. PRELIMINARY PROJECT INFORMATION			
<b>County:</b>	Perry	<b>Item No.:</b>	10-8913
<b>Route Number(s)*:</b>	KY 1166	<b>Road Name:</b>	Right Fork of Maces Creek
<b>Program No.:</b>		<b>UPN:</b>	FD52 97 1166 004-005
<b>Federal Project No.:</b>		<b>Type of Work:</b>	Bridge replacement
2016 <b>Highway Plan Project Description:</b>			
REPLACE BRIDGE ON KY-1166 OVER MACES CREEK			
<b>Beginning MP:</b>	4.2	<b>Ending MP:</b>	4.3
<b>Project Length:</b>	0.1		
<b>In TIP:</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No		<a href="#">Reconcile Project Information in Clearview</a>
<b>State Class.:</b>	<input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary		<b>Route is on:</b> <input type="checkbox"/> NHS <input type="checkbox"/> NN <input type="checkbox"/> Ext Wt
<b>Functional Class.:</b>	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural	Collector	<b>Truck Class.:</b> A <b>% Trucks:</b> NA
<b>MPO Area:</b>	Not Applicable		<b>Terrain:</b> Rolling
<b>ADT (current):</b>	1196 2014		
<b>Access Control:</b>	<input type="checkbox"/> None <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial Spacing: <input type="text"/>		
<b>Median Type:</b>	<input checked="" type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type): <input type="text"/>		
<b>Existing Bike Accommodations:</b>	Shared Lane		<b>Ped:</b> <input type="checkbox"/> Sidewalk
<b>Posted Speed:</b>	<input type="checkbox"/> 35 mph <input type="checkbox"/> 45 mph <input checked="" type="checkbox"/> 55 mph <input type="checkbox"/> Other (Specify): <input type="text"/>		
<b>KYTC Guidelines Preliminarily Based on :</b>	35 MPH Proposed Design Speed		
<b>COMMON GEOMETRIC</b>			
<b>Roadway Data:</b>	<b>EXISTING</b>	<b>PRACTICES**</b>	
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 type="text"/>
Lane Width	11	11	
Shoulder Width	0-2	5	<input type="checkbox"/> <a href="#">Traffic Forecast Requested</a> Date Requested: <input type="text"/>
Max. Superelevation***	NA	4%	
Minimum Radius***	NA	420	<input type="checkbox"/> Mapping/Survey Requested Date Requested: <input type="text"/>
Maximum Grade	NA	9%	
Minimum Sight Dist.	NA	250	Type: <input type="text"/>
Sidewalk Width(urban)	NA	NA	
Clear-zone <sup>†</sup>	NA	18	
<b>Project Notes/Design Exceptions?</b>	Proposed Design Speed should be adequate. Exceptions for shoulder width.		
<b>Bridge No.†:</b>	097B00072N (Bridge #2)		
Sufficiency Rating	33.5		<a href="#">Existing Geotech Data Available?</a> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Total Length	40		
Width, curb to curb	18		Detour Length(s): NA
Span Lengths	12.1		
Year Built	1952		
Posted Weight Limit	NA		
Structurally Deficient?	Y		
Functionally Obsolete?	Y		
Existing Bridge Type	Triple Barrel Box Culvert		
*If more than one road is included in the project, include additional sheets. **Based on proposed Design Speed ***AASHTO's A Policy on Geometric Design of Highways and Streets †AASHTO's Roadside Design Guide ‡If more than two bridges are located on the project, include additional sheets.			

**II. PROJECT PURPOSE AND NEED**

**A. Legislation**

This is a new Project added by the General Assembly into the 2016 Biennial Highway Plan. As listed, only the Design and Right of Way phases are funded in the 2016-2018 Biennial Highway Plan.

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
BRO	D	2017	\$335,000
BRO	R	2018	\$155,000
BRO	U	2019	\$103,000
BRO	C	2020	\$1,060,000

**B. Project Status**

Design Funds are being requested but have not been authorized at this time. There are two other projects located along this roadway. 10-1101 is located approximately 2 miles Southeast of this bridge and is currently under construction. 10-8910 is located approximately 4 miles Southeast and is also expected to start Design this year.

**C. System Linkage**

KY 1166 serves residents of the Right Fork of Maces Creek community. This route connects to the newly constructed section of KY 7 at the Viper Community.

**D. Modal Interrelationships**

There are currently no Modal connections in this area. This route once served the coal industry as a haul route.

**E. Social Demands & Economic Development**

There are currently no new plans for further commercial or industrial type development in this area. It is anticipated that this route will continue to function as a local residential route.

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

**F. Transportation Demand**

This section of roadway has a current ADT of 1196. The usage demand for this road is expected to stay the same for the foreseeable future.

**G. Capacity**

The Volume to Service Flow (V/SF) has not been computed for this roadway but due to the low traffic volume no capacity issues are expected in the future.

**H. Safety**

A review of Collision Data since 2010 shows no collisions have occurred at this area. A collision location map can be seen in the exhibits section below.

**I. Roadway Deficiencies**

KY 1166 is a two lane roadway with little to no shoulders. It has numerous substandard horizontal and vertical curves. The structure is a triple barrel box culvert and is structurally deficient.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW	
<b>A. Air Quality</b> Project is in: <input type="checkbox"/> Attainment area <input type="checkbox"/> Nonattainment or Maintenance Area <input type="checkbox"/> PM 2.5 County STIP Pg.#: <input type="text"/> TIP Pg.#: <input type="text"/>	
NA	
<b>B. Archeology/Historic Resources</b> <input type="checkbox"/> Known Archeological or Historic Resources are present	
NA	
<b>C. Threatened and Endangered Species</b> Listed - Indiana Bat Proposed Listing - Northern Long Eared Bat, Kentucky Arrow Darter Not Listed - Black Sided Dace (species has been found in same stream on previous project)	
<b>D. Hazardous Materials</b> <input type="checkbox"/> Potentially Contaminated Sites are present <input checked="" type="checkbox"/> Potential Bridge or Structure Demolition	
Existing Structure will be removed.	
<b>E. Permitting</b> Check all that may apply: <input checked="" type="checkbox"/> Waters of the US <input type="checkbox"/> MS4 area <input checked="" type="checkbox"/> Floodplain Impacts <input type="checkbox"/> Navigable Waters of the US Impacts Are 401/404 Permits likely to be required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Impacts to: <input type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Stream/Lake/Pond <input type="checkbox"/> ACE LON <input type="checkbox"/> ACE NW <input checked="" type="checkbox"/> ACE IP <input type="checkbox"/> DOW IWQC <input type="checkbox"/> Special Use Waters	
<b>F. Noise</b> Are existing or planned noise sensitive receptors adjacent to the proposed project? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is this considered a "Type I Project" according to the <a href="#">KYTC Noise Analysis and Abatement Policy?</a> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>G. Socioeconomic</b> Check all that may apply: <input type="checkbox"/> Low Income/Minority Populations <input type="checkbox"/> Relocations <input type="checkbox"/> Local Land Use Plan available	
NA	
<b>H. Section 4(f) or 6(f) Resources</b> The following are present on the project: <input type="checkbox"/> Section 4(f) Resources <input type="checkbox"/> Section 6(f) Resources	
NA	
Anticipated Environmental Document:	<input type="text" value="CE Level 1"/>

**IV. PROJECT SCOPING, NEEDS & PURPOSE**

**A. Scoping & Need:**

**The Project Team has identified the following needs for this project:**

- The bridge replacement is needed to ensure a continued linkage for residents of this community to the rest of the highway system.
- Continuation of System wide deficient bridge replacements.

Four Alternatives were considered when scoping this project - Alternate 1. No Build Alternate 2. Replace in same location with diversion upstream. Alternate 3. Replace in same location with diversion downstream. Alternate 4. Part width Construction.

Alternate 1. This will not satisfy the needs of the project.

Alternate 2. This will fulfill the project needs but has traffic control issues that must be addressed. Diversion would require the use of a temporary bridge.

Alternate 3. This would fulfill the project needs but also has traffic control issues that must be addressed. Diversion would require two additional temporary structures to be used.

Alternate 4. this would fulfill the project needs. Construction of this method would be costly if possible.

**The Project Team has identified the following issues/concerns that must be considered during the design process:**

- The Project is located where the Right Fork of Maces Creek flows into Maces Creek (See Exhibit) and just upstream of the Kentucky River.
- The Project Area may contain the Black sided Dace Endangered Species.
- Project is located in Flood Zone A area (See Exhibit.)
- This location will require unique traffic control.
- It appears that a gas line is attached to the current structure.

**After reviewing the available data it is recommended that Alternate 2 be moved forward to Design.**

**B. Draft Project Purpose:**

Purpose: The purpose of this project is to replace a Structurally deficient bridge to ensure a continued linkage for residents of this community to the rest of the highway system.

**V. PROJECT ESTIMATE & METHODOLOGY**

<b>Estimate Methodology:</b>	<b>Current Estimate</b>	
This estimate is based on replacing the structure in place and utilizing a diversion on the upstream side of the existing structure.	<u>Phase</u>	<u>Estimate</u>
	Planning	
	Design	\$ 350,000.00
	R/W	\$ 100,000.00
	Utilities	\$ 100,000.00
	Const	\$ 1,500,000.00
	<b>Total</b>	<b>\$ 2,050,000.00</b>
Only Design and Right of Way have been approved in the current Highway Plan. Extra Design funds may need to be requested due to the complexity of the project.		

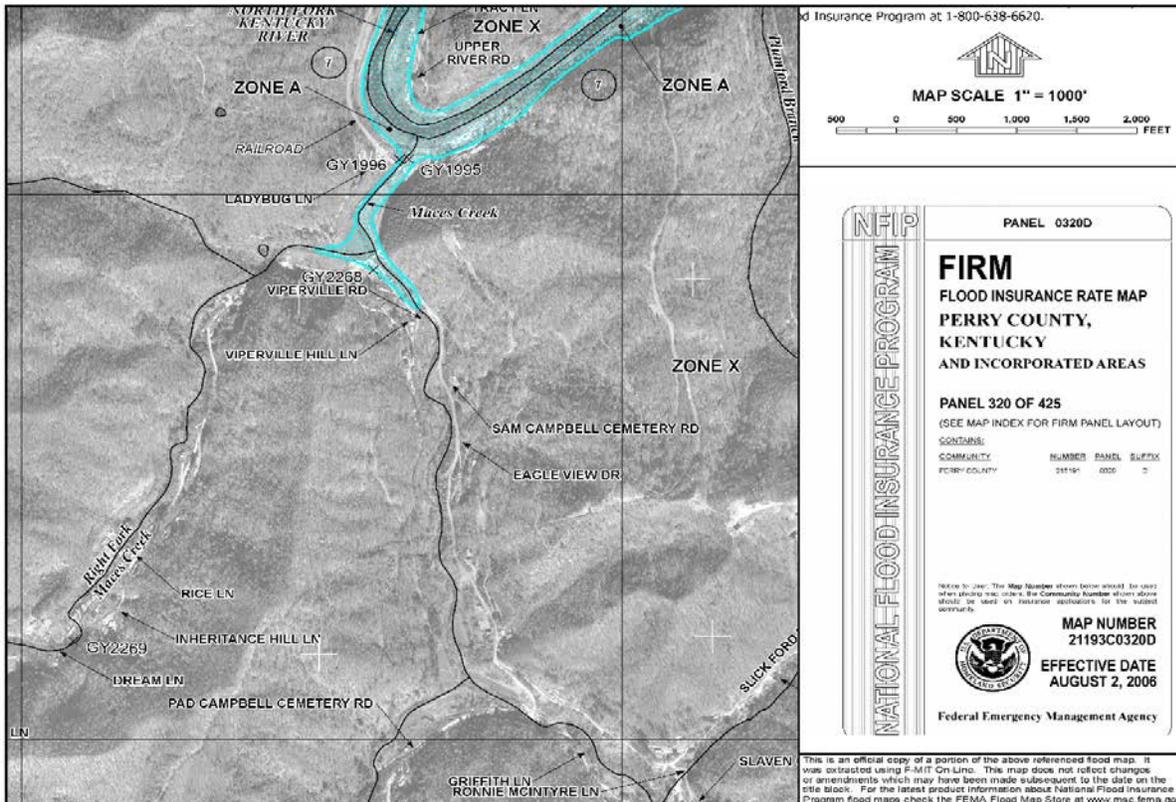
**VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION**

Company Name -	Hazard Utilities
Contact -	Bobby Holland
Address -	700 Main Street, Hazard, KY 41701
Phone No. -	606-436-3171
Company Name -	TVS Cable
Contact -	Kenny Salmons
Address -	PO Box 1410, Hindman, KY 41822
Phone No. -	606-785-3450
Company Name -	Kentucky Power
Contact -	Glen Combs
Address -	1400 East Main Street, Hazard KY 41701
Phone No. -	606-864-2363
Company Name -	Windstream
Contact -	Gary Lady
Address -	719 North Main Street, London, KY 40741
Phone No. -	606-878-3260
Company Name -	
Contact -	
Address -	
Phone No. -	
Company Name -	
Contact -	
Address -	
Phone No. -	

VII. TABLES AND EXHIBITS



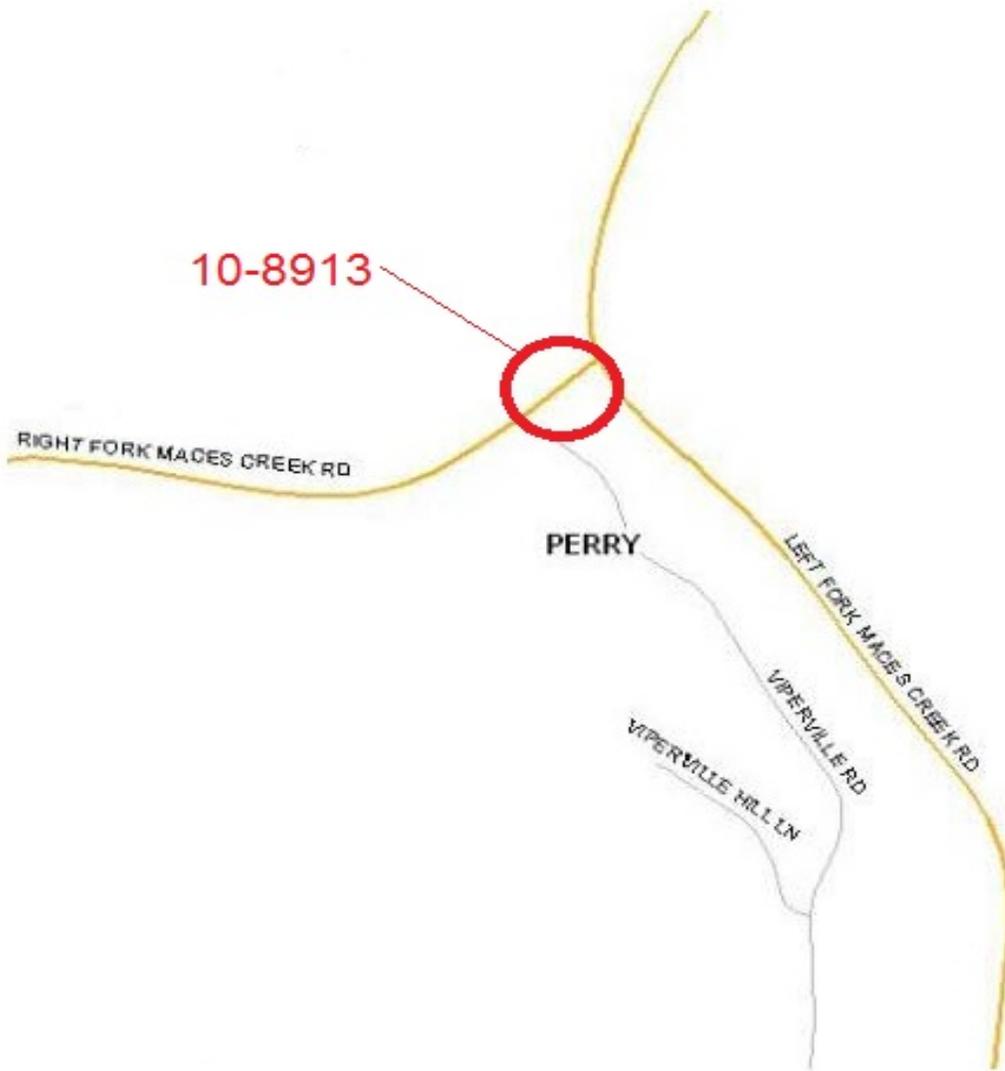
VII. TABLES AND EXHIBITS (cont.)



VII. TABLES AND EXHIBITS (cont.)



VII. TABLES AND EXHIBITS (cont.)



- Collision w/Injury 
- Collision w/Fatality 
- Collision w/Prop Damage 