

RED FLAG SUMMARY

Red Flag Summary Completed: October 2005

The purpose of this Red Flag summary is to identify concerns that could cause revisions to the anticipated design and construction scope of work, the proposed project development schedule, the estimated project budget, or the potential impacts of the project on the surrounding area.

Date Red Flag Summary Completed:	October 14, 2005
District	8
Project Name (County, Route, Section):	HAM-71/75-0.00/0.22 - KYTC Project Number 6-17
City, Township or Village Name(s):	Cities of Cincinnati, Ohio and Covington, Kentucky
PID	75119
Prepared By:	Parsons Brinckerhoff
ODOT Project Manager:	Stefan Spinosa

GENERAL PROJECT PLANNING INFORMATION

Project Description:

The Brent Spence Bridge and its approaches are key elements of the Interstate Highway System in the nation, carrying both I-71 and I-75 traffic in the Greater Cincinnati/Northern Kentucky region. This important river crossing is vital to long-distance, state and national commerce, as well as being a major thoroughfare for local and regional mobility.

I-75 connects the region northward to Detroit and southward to destinations such as Atlanta and Miami. Locally, it connects to I-71, I-471 and US Route 50. I-75 and the railroads that run parallel are among the nations busiest. It is the backbone of commerce and travel in this region. I-75 is also among the busiest routes for truck traffic in the country as well, with as many as 6 billion miles of truck travel annually. Each day, more than 250 freight trains pass through this area. Significant safety, congestion and geometric problems exist on the structure and its approaches.

Project Limits / General Location:

The Brent Spence Bridge study area is approximately 4,000 feet wide, extending from the Harrison Avenue interchange on the north, to just south of the Kyles Lane interchange on the south. In Ohio, the study area is bounded by the Mill Creek on the west and parallels the existing I-75 mainline at 2,000 feet to the east. In Kentucky, the study area is bounded by Kenton Hills/Park Hills on the west and the Covington rail yards on the east.

The study area is approximately 6.47 miles in length.

List Structures: **Note: Only Mainline Structures are noted on this form.**

Bridge No.:	HAM-00071-0000 L (ODOT)	Structure File #:	3105946 (ODOT)
Bridge No.:	HAM-00071-0000 R (ODOT)	Structure File #:	3105970 (ODOT)
Bridge No.:	HAM-00075-0022 L (ODOT)	Structure File #:	3108791 (ODOT)
Bridge No.:	HAM-00075-0022 R (ODOT)	Structure File #:	3108805 (ODOT)
Bridge No.:	HAM-00075-0024 R (ODOT)	Structure File #:	3108821 (ODOT)
Bridge No.:	HAM-00075-0030 (ODOT)	Structure File #:	3108872 (ODOT)
Bridge No.:	MP 059 0075 B00043 (KYTC)	Bridge No.:	MP 059 0075 B00090 (KYTC)
Bridge No.:	MP 059 0075 B00043P (KYTC)	Bridge No.:	MP 059 0075 B00039 (KYTC)
Bridge No.:	MP 059 1072 B00047 (KYTC)	Bridge No.:	MP 059 0075 B00040 (KYTC)
Bridge No.:	MP 059 0075 B00044 (KYTC)	Bridge No.:	MP 059 0075 B00041 (KYTC)
Bridge No.:	MP 059 0075 B00044P (KYTC)	Bridge No.:	MP 059 0075 B00046 (KYTC)
Bridge No.:	MP 059 0075 B00038 (KYTC)	Bridge No.:	MP 059 0075 B00089 (KYTC)
Bridge No.:	MP 059 0075 B00038P (KYTC)	Bridge No.:	MP 059 0025 B00049 (KYTC)
Bridge No.:	MP 059 0075 B00087 (KYTC)	Bridge No.:	RR 059 2374 RR 0602 (KYTC)
Bridge No.:	MP 059 0075 B00088 (KYTC)	Bridge No.:	RR 059 0025 RR0610 (KYTC)

Estimated Project Cost: \$750 M - 1.5 B

Funding Source(s):

<input checked="" type="checkbox"/> Federal	
<input checked="" type="checkbox"/> State	
<input checked="" type="checkbox"/> Local	City of Cincinnati, Ohio/City of Covington, Kentucky
<input type="checkbox"/> Private	

Are Funding Splits Required?

Yes
 No

Specify Splits: Major New, Major Bridge, District Allocation, Local

Anticipated Quarter and Fiscal Year of Project Awarded: Second Quarter - Fiscal Year 2015

Project Sponsor, if any: Ohio Department of Transportation/Kentucky Transportation Cabinet

Is Local Legislation Required?

Yes
 No

Is FHWA Oversight Required?

Yes
 No

Is the project located on the congestion / safety list?

Yes
 No

Problem identified by (indicated document date):

<input type="checkbox"/> District Work Plan	
<input type="checkbox"/> Congestion Study	
<input type="checkbox"/> Safety Study	
<input type="checkbox"/> Major New	
<input checked="" type="checkbox"/> MPO TIP	April 14, 2005
<input checked="" type="checkbox"/> MPO LRP	June 10, 2004
<input checked="" type="checkbox"/> Access Ohio	Corridor 16 (May 2004)
<input checked="" type="checkbox"/> Other	North South Transportation Initiative (February 2004), KyTC Engineering Feasibility Study (March 2005)

Are there any projects in the area (ODOT, Local, Utility) that might conflict with the project (e.g. a local project on the proposed detour route, a resurfacing project a year after the pavement marking project)?

- Yes
 No

Specify: Possible Mill Creek Expressway Project (HAM-75 2.30), Thru the Valley (HAM-75-10.10), Eighth Street Viaduct (City of Cincinnati), Waldvogel Viaduct (City of Cincinnati), Western Hills Viaduct (City of Cincinnati). Local street resurfacing program in Cincinnati and Covington.

Are there growth or land use changes in the area surrounding the project that could have an impact on the project scope?

- Yes
 No

Specify: The City of Cincinnati has existing plans for re-development in areas near the project study area, particularly in the Queensgate area and an existing project north of Mehring Way and west of Gest Street. Further coordination with these efforts will be required. Development contracts are in process which would preclude aerial easements on Queensgate alignments.

Are there known public involvement issues?

- Yes
 No

Specify: Public involvement will be required. Major issues identified in preliminary efforts include bridge aesthetics, maintenance of traffic, capacity and the consideration of transit modes.

Purpose and Need Statement (Must be a separate document for Major Projects):

Draft Purpose and Need Statement will be submitted separately

Other Information / Notes:

In 2000, the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) and the Miami Valley Regional Planning Commission (MVRPC) cooperated on a regional multi-modal transportation plan named the North South Transportation Initiative (NSTI). The NSTI's focus was to determine ways to improve safety, efficiency and reliability of the transportation networks within Southwest Ohio, Northern Kentucky and Southeast Indiana. Following analysis of the existing and future travel corridors combined with public concerns and thoughts, several projects were established to address the original focus of the NSTI. One of the most important corridors established by the public and stakeholders was Interstate 75, which is the only major north-south connector through the NSTI project area. The Brent Spence Bridge carries both Interstate 71 and Interstate 75 (I-71 and I-75) over the Ohio River and is a vital link of the interstate, regional, and local transportation system. It opened to traffic in 1963 and was designed to carry three 12-foot travel lanes on two decks in each direction. The northbound traffic is carried on the lower deck and the southbound traffic is carried on the upper deck. To accommodate increasing traffic levels, the lane configu

EXISTING INFORMATION:

Check all information that was reviewed for the Red Flag Summary. Not all information is available or necessary for every project. The scope of the Red Flag Summary should be commensurate with the nature of the proposed project.

Legal Speed: 55 mph
 Design Speed: 55 mph

Traffic Data:
Opening Year ADT: 83,000
Design Year ADT: 80,000
Design Hourly Volume:
Directional Distribution:
Trucks (24 Hr. B&C): 18,430 at the highest location

(Traffic data does not need to be certified for the Red Flag Summary.)

Turning Movement Traffic Counts

Functional Classification:
 Interstate, Freeway
 Arterial
 Collector
 Local

Locale:
 Rural
 Urban

National Highway System (NHS):
 NHS Routes: Interstate Routes 71 and 75
 Non-NHS Routes:

(3R) Project?

Yes
 No

Aerial Mapping

Ohio Utility Protection Service (OUPS) Markings

United States Geologic Survey (USGS) topographic mapping

Federal Emergency Management Agency (FEMA) flood plain study mapping

Natural Resources Conservation Services (NRCS) mapping

County Map(s)

Airport locations within 4 miles of project

Tax maps

Property deeds

Pavement marking log

Original construction plans:

Existing Right-of-Way plans:

Bridge Inspection Reports

Bridge Load Ratings

Pile Driving Logs

Recorded vertical clearances for overpasses and underpasses

Old soil borings

Old Geologic reports

Pavement Cores

Dynaflec Testing

Deck Cores

Ground Penetrating Radar (GPR Data)

Maintenance history

Pavement Condition Ratings (PCRs)

County manager concerns

Traffic studies, Highway Safety Program (HSP) studies

Previous Maintenance of Traffic concerns on roadway

Accident history / Accident reports

Past Project Construction Diaries

Permitted Lane Closure Map

Property owner contacts

National Register of Historic Places

Other:

EXISTING GEOTECHNICAL INFORMATION:

Identify all geotechnical references found. It is assumed, based on the project type, that not all reference materials listed herein will be applicable for use during the Red Flag Study. This study should provide a comprehensive review of all existing information available for the project area and should be supplemented with a complete field reconnaissance

Review of Information From ODOT:

Original Construction Plans including plan views, profiles, and cross-sections

Construction diaries and inspection reports for original construction

Compile information on changes to the plans during construction activities (e.g., slope, spring drains)

Interview people knowledgeable with the previous projects

Maintenance records

Boring log on file with the Office of Geotechnical Engineering

History and occurrence of landslides

History and occurrence of rockfalls

Other:

Review of information from ODNR:

From the Division of Geological Survey

Boring logs on file

Measured geological sections

Bedrock Geological Maps

Bedrock Topography Maps

Bedrock Structure Maps

Geologic Map of Ohio

- Quaternary Geology of Ohio
- Known and Probable Karst in Ohio
- Bulletins
- Information Circulars
- Report of Investigations
- Locations and Information on underground mines
- Location and characteristics of karst features
- Landslide Maps
- Other

From the Division of Mineral Resource Management

- Applications and permits files for surface mines (coal & industrial mineral)
- Active, reclaimed or abandoned surface mines
- Abandoned Mine Land (AML) sites
- Emergency Projects
- Other

From the Division of Soil & Water

- Water well Logs
- Soil Survey
- Ohio Wetland Inventory Maps
- National Wetland Inventory Maps
- Presence of lake bed sediments, organic soils or peat deposits
- Other

Other Sources:

- Aerial photography
- Satellite imagery
- USGS quadrangles
- USGS publications and files
- City and County Engineers
- Academia with engineering or geology programs
- USGS open File Map Series #78-1057 "Landslide and Related Features"
- Other

SITE VISIT:

A site visit is required for ALL projects. The site visit shall consist of visual inspection of the entire project area including the ditch lines, cut slopes, stream banks, bridge foundations, pavement, rock / soil slopes, etc.

Date(s) of Site Visit:

* The attendance list this revisits is attached to the end of this document

ODOT DISCIPLINE INVOLVEMENT:

List name and phone number of individual(s) representing each discipline during the site visit and preparation of the Red Flag Summary. One individual may represent multiple disciplines. Check box if individual attended the site visit.

<input checked="" type="checkbox"/>	District Project Manager	<input type="text" value="Stefan Spinoso, P.E."/>	Phone: <input type="text" value="513.933.6639"/>
<input checked="" type="checkbox"/>	Geometrics	<input type="text" value="Stefan Spinoso, P.E."/>	Phone: <input type="text" value="513.933.6639"/>
<input checked="" type="checkbox"/>	Hydraulics	<input type="text" value="Stefan Spinoso, P.E."/>	Phone: <input type="text" value="513.933.6639"/>
<input checked="" type="checkbox"/>	Pavements	<input type="text" value="Stefan Spinoso, P.E."/>	Phone: <input type="text" value="513.933.6639"/>
<input checked="" type="checkbox"/>	Geotechnical	<input type="text" value="Swmainathan Srinivasan (HC Nutting)"/>	Phone: <input type="text" value="513.321.5816"/>
<input checked="" type="checkbox"/>	General Roadway	<input type="text" value="Stefan Spinoso, P.E."/>	Phone: <input type="text" value="513.933.6639"/>
<input checked="" type="checkbox"/>	Structures	<input type="text" value="Stefan Spinoso, P.E."/>	Phone: <input type="text" value="513.933.6639"/>
<input checked="" type="checkbox"/>	Traffic Control	<input type="text" value="Jay Hamilton"/>	Phone: <input type="text" value="513.933.6584"/>
<input checked="" type="checkbox"/>	Signals	<input type="text" value="Jay Hamilton"/>	Phone: <input type="text" value="513.933.6584"/>
<input checked="" type="checkbox"/>	Maintenance of Traffic	<input type="text" value="Jay Hamilton"/>	Phone: <input type="text" value="513.933.6584"/>
<input type="checkbox"/>	Right-of-Way / Real Estate	<input type="text"/>	Phone: <input type="text"/>
<input type="checkbox"/>	Utilities	<input type="text"/>	Phone: <input type="text"/>
<input type="checkbox"/>	Survey	<input type="text"/>	Phone: <input type="text"/>
<input checked="" type="checkbox"/>	Environmental	<input type="text" value="Diana Martin"/>	Phone: <input type="text" value="513.933.6597"/>
<input type="checkbox"/>	Highway Management	<input type="text"/>	Phone: <input type="text"/>
<input type="checkbox"/>	CO Program Manager	<input type="text"/>	Phone: <input type="text"/>
<input checked="" type="checkbox"/>	County Manager(s)**	<input type="text" value="Keith Smith"/>	Phone: <input type="text" value="513.933.6590"/>
<input type="checkbox"/>	Production Administrator**	<input type="text" value="Stefan Spinoso, P.E."/>	Phone: <input type="text" value="513.933.6639"/>
<input checked="" type="checkbox"/>	Planning Administrator**	<input type="text" value="Diana Martin"/>	Phone: <input type="text" value="513.933.6597"/>

** The County Manager, District Production Administrator, and District Planning Administrator (or qualified representative) must attend the site visit.

EXTERNAL AGENCY INVOLVEMENT:

Indicate external agency involvement during identification of red flags. List the name and phone number of individual(s) representing each agency during the site visit. Check box if individual attended the field review.

<input type="checkbox"/>	Federal Highway Administration (FHWA)		Phone:	
<input type="checkbox"/>	County Engineer		Phone:	
<input checked="" type="checkbox"/>	City Engineer	Tom Logan (Cov); Bonnie Phillips (Cin)	Phone:	859.292.2112/513.352.5310
<input type="checkbox"/>	Other Local Public Agency		Phone:	
<input type="checkbox"/>	Federal Emergency Management Agency (FEMA)		Phone:	
<input type="checkbox"/>	US Army Corps of Engineers (USACE)		Phone:	
<input type="checkbox"/>	U.S. Coast Guard		Phone:	
<input type="checkbox"/>	Ohio Department of Natural Resources (ODNR)		Phone:	
<input type="checkbox"/>	Ohio Environmental Protection Agency (OEPA)		Phone:	
<input type="checkbox"/>	Railroad Railway Company		Phone:	
<input type="checkbox"/>	State Historical Preservation Office (SHPO)		Phone:	
<input checked="" type="checkbox"/>	Metropolitan Planning Organization (MPO)	Bob Koehler, (OKI)	Phone:	
<input type="checkbox"/>	Utilities Company list:			
<input type="checkbox"/>	Electric		Phone:	
<input type="checkbox"/>	Telephone		Phone:	
<input type="checkbox"/>	Water		Phone:	
<input type="checkbox"/>	Gas		Phone:	
<input type="checkbox"/>	Sanitary		Phone:	
<input type="checkbox"/>	Cable		Phone:	
<input type="checkbox"/>	Other		Phone:	
<input checked="" type="checkbox"/>	Other	Dave Harmon, Kevin Rust, Mike Bezold, David Waldner (KYTC)	Phone:	859.341.3661

ODOT COUNTY MANAGER CONCERNS:

List any comments / requests from the ODOT County Manager

ACCIDENT DATA:

Summarize accident history. Indicate and design features that should be revised to increase safety

In the Kentucky portion of the study area, crash rates are higher than the state average. A high concentration of crashes occurs at the 12th Street/Pike Street and 5th Street exits. Along this portion of the corridor, more than half of the crashes are rear-end type accidents, which is an indicator of congestion already present along the corridor. The high incidences of crashes within the study area lead to increasing congestion along the corridor, as the congestion continues to increase; the likelihood of additional accidents also increases. Both the I-75 and I-71 corridors have been identified by ODOT as safety priorities. The segment of I-71 between State Line Mile 0.50 and 1.00 ranks as the fourth most accident prone section in the state. Most of the segment crash rates for individual years as well as overall crashes exceed the statewide average rates. There are high concentrations of crashes near the I-75/I-71 split, which only serve to increase congestion and delay in the study area.

ENVIRONMENTAL ISSUES:

Make a preliminary determination on whether the following resources will be affected by the proposed project.

Involvement:	Resource	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Parkland, nature preserves and wildlife areas (Name)	Goebel, Devou, Laurel and Lincoln parks	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Cemetery (Name)	St. John's and Highland Cemeteries	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Scenic River (Name)	Mill Creek Conservancy District boundaries coincide with study area limits, but it is not a state scenic river.	EPM: 104.2, 104.2.4
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Public Facilities (Name)	Schools, churches and mediactal facilities	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Threatened and Endangered Species and/or habitat (e.g., Indiana bat trees, etc.)	Indiana Bat habitat on either side of Ohio River. Potential for mussels in Ohio River	EPM: 104.2, 104.2.6

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible	Existing cat tails (Location)	Along river bank and associate with highway drains	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible	Existing wet areas (Location)	Along river bank and associate with highway drains	EPM: 104.2, 104.2.3
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible	Streams, rivers and watercourses (Use Designation)	Ohio River is within study area limits. The Mill Creek in Ohio and the Licking River in Kentucky are nearby, but not within the study area.	EPM: 104.2, 104.2.4
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible	Historic Building(s) (Location)	The Ohio Historical Preservation Office Database lists 231 buildings, 17 of which are deemed eligible for the National Register of Historic Places (NRHP). This includes Longworth Hall at 700 West Pete Rose Way. The Kentucky Heritage Council database lists 879 building or features, 174 of which are deemed NHRP eligible.	EPM: 104.3
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible	Historic Bridge(s) (Location)	Western Hills Viaduct (SFN 310545).	EPM: 104.3
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible	Farmland (Location)		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible	Landfill(s) (Location)		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible	Total Maximum Daily Load (TDML) Streams		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible	ODOT MS4 Phase 2 Regulated Areas		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible	Evidence of hazardous materials (Location)	Electric sub-station, dry cleaners, body shops, gas stations, printing and sign companies all operate within the study area at various locations. This is a long developed industrial zone with probability for soil contamination.	EPM: 104.7
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible	Sensitive environmental justice areas	Subsidized housing units located on the West End of Cincinnati in the areas of Linn Street, Dayton Street, Dalton Street and Ezzard Charles Avenue.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible	Federal Emergency Management Agency (FEMA) floodplains	Special flood hazard zone along the Ohio River (FEMA online)	EPM: 104.2, 104.2.5
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible	Lake Erie Coastal Management Area		EMP: 104.2
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible	Sole Source Aquifers (Location)		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible	Wellhead Protection Areas (Specify)		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible	Does it appear that noise abatement will be an issue for the project?	Possibly for residential areas as noted above	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible	Other Environmental Issues	Coal yards, roofing companies, scrap yards and homes with asbestos siding are all present within the project area.	

GEOMETRIC ISSUES:

Use the design speed, design functional classification and available traffic data to make a preliminary determination as to the geometric standards for the project. Compare these requirements to accident data and impacts if deviations are being considered

Design Exception Required?	Design Feature	Preliminary Comments Regarding Justification	References*
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Lane Width (including curve widening)	Lane widths on some existing crossroads do not meet LDV1 design requirements. Construction of this project will likely involve tying in to existing crossroads with inadequate lane widths.	LDV1: 301.1.1
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Graded Shoulder Width	Graded shoulder widths on some existing crossroads do not meet LDV1 design requirements. Construction of this project will likely involve tying in to existing crossroads with inadequate shoulder widths.	LDV1: 301.2.3
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Bridge Width	Bridge widths on some existing crossroads do not meet LDV1 design requirements. Construction of this project will likely involve tying in to existing crossroads with bridges of inadequate width.	LDV1: 302.1
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Structural Capacity	Existing bridges on crossroads may not meet current design loading criteria. Additional review of existing bridges will be required upon final determination to reuse any existing bridges.	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Horizontal Alignment (including Excessive Deflections, Degree of Curve, Lack of Spirals, Transition/Taper Rates and Intersection Angles)	Several horizontal curves on mainline ramps and crossroads do not meet LDV1 design requirements. Construction of this project may involve tying to existing roadway alignments with inadequate horizontal alignment. Horizontal alignment may also be restricted to avoid existing cultural resources.	LDV1: 202, 401.2
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Vertical Alignment (including grade breaks)	Several vertical curves on mainline ramps and crossroads do not meet LDV1 design requirements. Construction of this project may involve tying to existing roadway alignments with inadequate vertical alignment. Vertical alignment may also be restricted to avoid existing cultural resources.	LDV1: 203
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Grades	Due to the surrounding urban environment, ties to existing ramps, crossroads, and mainline will require additional review dependent on final design configuration. Final grades may also be restricted to avoid existing cultural resources.	LDV1: 203.2
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Stopping Sight Distance	Several vertical curves on mainline and crossroads do not meet LDV1 design requirements. Construction of this project may involve tying to existing roadway alignments with inadequate vertical alignment including inadequate stopping sight distance. Stopping sight distance may also be restricted to avoid existing cultural resources.	LDV1: 201.2
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Pavement Cross Slopes	Due to the surrounding urban environment, ties to existing ramps, crossroads, and mainline will require additional review dependent on final design configuration.	LDV1: 301.1.5

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Superelevation (Maximum rate, transition, position)	Due to the surrounding urban environment, ties to existing ramps, crossroads, and mainline will require additional review dependent on final design configuration.	LDV1: 202.4
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Horizontal Clearance	Changes in horizontal alignment due to the final design configuration would have a direct impact on existing horizontal clearances and will require additional review. Avoidance of existing cultural resources may require guardrail and/or concrete barrier wall.	LDV1: 301.2.5
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Vertical Clearance	Changes in horizontal and vertical alignment due to the final design configuration would have a direct impact on existing vertical clearances and will require additional review.	LDV1: 302.1

Indicate if the following geometric issues are present or should be considered during project development. Consider work on the mainline as well as any side roads or service roads. Provide additional comments as needed.

	Design Issue	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the existing horizontal alignment need to be modified?	Dependent on final design configuration, it is anticipated that portions of the existing horizontal alignments of mainline, ramps, and crossroads will need to be modified.	LDV1:202
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the existing vertical alignment need to be modified?	Dependent on final design configuration, it is anticipated that portions of the existing vertical alignments of mainline, ramps, and crossroads will need to be modified.	LDV1:203
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does stopping sight distance need to be increased?	Dependent on final design configuration, it is anticipated that stopping sight distance at various locations will need to be upgraded.	LDV:201.2
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does intersection sight distance need to be increased?	Dependent on final design configuration, it is anticipated that some of the local intersections will need sight distance modifications.	LDV1: 201.3
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any hazards in the clear zone? Specify treatment.	Due to the urban environment, many of the existing bridge abutments and other surrounding features are within the clear zone area. Dependent on final design, it is anticipated guardrail and concrete barrier wall will be required to protect hazards within the clear zone or removal of the hazard at a cost.	LDV1: 600.2, 601
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does existing guardrail need to be replaced (e.g., too low, poor condition)?	Dependent on final design, it is anticipated that portions of existing guardrail will be replaced due to the final design configuration.	LDV1: 602, 603
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there sufficient area for guardrail anchor assemblies (E-98 or B-98)?	Dependent on final design configuration, it is anticipated that sufficient area will be available for anchor assemblies.	LDV1: 602, 603
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the number of turn lanes appear to be adequate?	Dependent on final design configuration, it is anticipated that upgrades to existing intersections will be required.	LDV1: 401.7, 402
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the number of through lanes appear to be adequate?	Dependent on final design configuration, it is anticipated that upgrades to the number of lanes on mainline, ramps, and crossroads will be required.	LDV1: 401.7
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are changes to access control required?	Dependent on final design configuration, it is anticipated that changes to access control will be required.	LDV1: 800, 801, 802
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any drive locations that will require special attention during design (e.g., very steep grades, high volume commercial drives, drives close to bridges or intersections)?	Dependent on final design configuration, it is anticipated that drive locations and alignments on the crossroads will need to be reviewed for possible relocation and/or modification.	LDV1: 803, 804, 805
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are new mailbox turnouts required?		LDV1: 803.1
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there any evidence of accidents due to substandard vertical clearance on overpass structures?	A more detailed analysis will be available in the Existing and Future Conditions Report.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will an interchange be added or modified?	Dependent on final design configuration, it is anticipated that existing interchanges will need to be modified and additional access points may be provided.	LDV1: 403, 404
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do the existing intersection radius returns need to be modified to accommodate larger truck turning movements?	Dependent on final design configuration, it is anticipated that some intersection radii along the crossroads will need to be improved to accommodate traffic.	LDV1: 401.5
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does grading need to be upgraded? To what criteria (e.g., clear zone, safety, standard)?	Dependent on final design configuration, it is anticipated that grading will be required to address both existing and final conditions.	LDV1: 307
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other geometric issues? Describe	Due to the urban environment, the close proximity of residences and businesses to the mainline, ramps, and crossroads, and the existence of cultural resources and other environmental features will affect geometric design decisions. Tight geometry exists currently on most mainline ramps.	

HYDRAULIC ISSUES:

Indicate if the following drainage issues are present or should be considered during project development. Side road and service road work should be considered in this assessment. Provide additional comments as needed.

	Design Issue	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Based on visual evidence (height of debris, erosion or other markings left from high water) and approximate drainage areas, does the existing drainage system (culverts, storm sewers and/or ditches) appear to be appropriately sized and functioning properly? Describe deficiencies.	Dependent on final design configuration, it is anticipated that additional review and analysis of existing drainage structures to be reused will be required. It is anticipated that many existing structures will be replaced.	LDV2: 1003 - 1006
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of alignment or flow velocity problems (e.g., scour, bank erosions, silting) at culvert entrances or exits?	Dependent on final design configuration, it is anticipated that additional review and analysis of existing drainage structures to be reused will be required. Evaluation of bridge scour has not been conducted.	LDV2: 1107
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there sinkholes or other deterioration in the pavement that would indicate separations in the existing pipes?		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Should guardrail over culverts be eliminated with clear zone grading?		LDV1: 307.2

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Should the existing culverts be replaced?	Dependent on final design configuration, additional review and analysis will be required to determine if existing culverts to be reused should be replaced. It is anticipated that many existing structures will be replaced.	LDV2: 1105
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Should the existing culverts be extended?	Dependent on final design configuration, additional review and analysis will be required to determine if existing culverts to be reused can be extended if possible or should be replaced.	LDV2: 1105
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will a new alignment concentrate flow (in culverts) that is currently overland flow?	Dependent on final design configuration, additional review and analysis will be required to determine if additional runoff is being directed to existing drainage structures that are to be reused.	LDV2: 1105
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will the maximum height of cover (100') be exceeded for any culvert?		LDV2: 1008
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will bankfull design be used for any culverts?		LDV2: 1105.3.3
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Could materials with long lead times (e.g., large boxes) have an impact on construction schedule?	Long steel or concrete boxes or structures may require long lead times.	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the existing drainage system have an odor that might indicate that it includes septic connections?	Possible due to the urban environment.	LDV2: LD-30 Form 1111.1
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the exposed curb height in existing gutters adequate to contain flow (include height of proposed resurfacing)?	Curb heights on many side roads are likely inadequate. Construction of this project may involve tying to existing crossroads with inadequate curb heights.	LDV2: 1103
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do the existing inlets or catch basins need to be raised to meet proposed grade?	Dependent on final design configuration, it is anticipated that most existing drainage structures will be replaced with new structures.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the project in a FEMA flood zone?	The project involves a major crossing of I-75 over the Ohio River and the Ohio side may flood at elevations closer to the Ohio River.	LDV2: 1005
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the project affect a wetland or waterway (e.g., stream, river, jurisdictional ditch)?	The project involves a major crossing of I-75 over the Ohio River. Wetlands may exist along the fringe of the river.	LDV2: 1001.2
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the existing and/or proposed channel alignment compatible with the existing/proposed structure?		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will channel relocation be required?		LDV2: 1102.2.4
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will Municipal Separate Storm Sewer System (MS4) requirements apply?		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will post construction flow requirements be required?		LDV2: 1115.1 LDV2: 1115.2
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of existing field tiles?		LDV2: 1002.3.6, 1108
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are underdrain outlets functioning properly?	Age of the system would indicate that some problems likely exist.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will a new storm sewer outfall be required?	Dependent on final design configuration, storm sewer outfalls may be modified to some extent.	LDV2: 1104
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is ditch cleanout required?		
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the drainage work warrant any special maintenance of traffic considerations?		TEM: PART 6
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other hydraulic issues? Describe.		

GEOTECH ISSUES:

"Geotechnical Red Flag" features may include, but are not limited to, known or suspected geologic hazards (e.g., organic soils, karst, rockfalls, landslides, surface and underground mines, poor subgrade conditions, or difficulty in correcting existing surface or subsurface drainage problems).

GEOLOGY

Soils noted in the study area consist of a gravelly zone topped by granular outwash deposits, alluvial sediments, valley basin sediments, valley wall deposits, silty sands glacial and residual clays with limestone and shale, Illinoian age glacial soils, capped with windblown loessian silts and overlying residual clays that provide a soil mantle of varying thickness atop native bedrock. The predominately shale and limestone bedrock surface is highly variable, with relatively drastic changes in depth over relatively short distances. Area soil conditions at the site have also been affected by placement of fill, construction of buildings, construction of marina and housing developments, demolition of structures and roadway grading. Rock beds are highly fossiliferous and calcareous. The present limestone often provides a formidable resistance to excavation efforts due to hardness, thickness of layers and close packing of layers. Based on local project experience, the development of karst in the study area could occur in isolated areas, but is not anticipated to be a significant concern.

ORIGINAL CONSTRUCTION PLAN OBSERVATIONS

Test borings performed along the Ohio River banks for the existing Brent Spence Bridge indicated approximately 45 feet of sandy and clay-like fill underlain by medium stiff silty clay to a depth of about 66 feet below existing grade. The cohesive alluvium was underlain by a medium dense layer of sandy outwash deposits with varying amounts of gravel down to about 115 feet below existing grade. Test borings performed within the Ohio River encountered more granular soils with varying consistency and gravel content to the top of a bedrock surface encountered at approximately 75 feet below the existing water surface. Foundations for main span of bridge are built on driven piles and 90 - 120 feet below water level. Bearing strata and bedrock, predominantly limestone, are variable in depth.

DISTRICT NOTATIONS

None provided

FIELD REVIEW

In Ohio, a number of historic structures were noted south of Pete Rose Way and throughout Queensgate. Railroad activity in the form for active lines and spurs was also noted east of Gest Street and south of Third. The Cinery sub-station just west of the existing bridge was also noted. In Kentucky, a lead contamination site was identified along the Ohio River bank as well as residual metal contamination in the area of the existing floodwall. Drainage into the Ohio River from the Kentucky side was also discussed as well as the number of historic properties in the Covington area, on both sides of I-71/I-75.

SUMMARY OF GEOTECHNICAL ISSUES

Based on the information compiled during this study indicate whether or not the following geotechnical issues are present or should be further considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of soil drainage problems (e.g., wet or pumping subgrade, standing water, the presence of seeps, wetlands, swamps, bogs)?	There are some areas in the lower elevations where drainage and wet pumping subgrade in alluvial soils may be an issue. The shale and top soils in Kentucky are also prone to moderate-to-severe erosion in steeper embankment areas or when exposed to air and water.	SSI: 2.1, 2.2
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of any embankment or foundation problems (e.g., differential settlement, sag, foundation failures, slope failures, scours, evidence of channel migrations)?	Deep alluvial, lakebed deposits are possible in the river valley and settlement issues need to be addressed. Scour in the river channel will be an issue, particularly in the Kentucky portion of the study area. There have been historical slides in Kentucky and north of the Western Hills Viaduct.	SSI: 2.1, 2.2
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of any landslides?	Certain areas in the valley (river) and uplands have weak alluvium and colluvial soils prone to landslide.	SSI: 2.1, 2.2
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of unsuitable materials (e.g., presence of debris or man-made fills or waste pits containing these materials, indications from old soil borings)?	Majority of the urban developed areas have variable thickness of fill and even buried foundations. Debris from I-75 construction can be found in the road bed.	SSI: 2.1, 2.2
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of rock strata (e.g., presence of exposed bedrock, rock on the old borings)?	The upland areas in the Kentucky side have shallow shale bedrock in evidence at the road cut slopes.	SSI: 2.1
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of active, reclaimed or abandoned surface mines?	No evidence based on this level review	SSI: 2.1, 2.2, AUM
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there information pertaining to the existence of underground mines?	None located	SSI: 2.1, 2.2, AUM
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are soil borings needed for pavement design, foundations (bridge, headwall, retaining wall, noise wall) or slopes?	Geology is very complex and variable. Structure-specific boring will be needed.	SSI: 2.1, 2.2
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does an undercut appear to be needed?	Undercut of existing fill and upper alluvium may be needed.	SSI: 5.3.2.1
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Should the Office of Geotechnical Engineering be contacted to evaluate the project site?	Not deemed necessary at this time.	SSI: 1.3
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are There any other geotechnical issues? Describe.	Bridge will likely require deep foundations and detailed study since bedrock was located at depths in excess of 100 feet. Regional seismology should be considered in design. Localized areas of landslide and karst (KY) side may be present. Numerous wells may be needed. Rock cuts and stability/erosion issues. Old foundations and existing fill may be present requiring attention. A more detailed report will be provided as a part of further study efforts.	

Provide a list of bulleted items referencing additional areas of concern or special notation.

- Historical topographic maps including 1912 maps and Hamilton County, Ohio CAGIS maps.
- Topographic and geologic maps published by the United States Geological Survey (USGS), the Geological Survey of Ohio, and the Kentucky Geological Survey, including website reviews of the same organizations.
- Soil Conservation Service Soil Surveys of Kenton County, Kentucky and Hamilton County, Ohio published by the United States Department of Transportation.
- Numerous geotechnical subsurface soils boring data in both Kentucky and Ohio in the project corridor study area.
- ODOT's Geotechnical Record in the applicable areas of Hamilton County, Ohio within the project corridor.
- History of notable landslides within the project corridor study area.
- Existing Brent Spence Bridge rehabilitation/reconstruction studies and feasibility studies performed by FHWA and others.
- Information obtained from project site visits conducted on August 3, 2005 and August 16, 2005.
- Original soil borings for projects in the study area, including the I-75 "Cut-in-the-Hill" project, original Brent Spence Bridge construction, Fort Washington Way and the Mill Creek Expressway project.

PAVEMENT ISSUES:

Indicate if the following pavement issues are present or should be considered during project development. Side road and service road work should be considered in this assessment. Provide additional comments as needed.

	Design Issue	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are pavement cores needed to determine the existing pavement buildup and/or condition?		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the proposed pavement buildup known? (For pavement preservation projects, pavement treatment, including pavement type & thickness should be specified in the design scope of services)		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the existing pavement concrete or asphalt?	Concrete with asphalt overlay on mainline and ramps. Crossroads are mostly asphalt.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are dynaflect tests available to assess existing pavement condition?		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the proposed pavement buildup need to be approved by the Pavement Selection Committee?		

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are joint repairs needed?	Dependent on final design configuration, existing pavement to remain may require joint repairs or full replacement. Interim maintenance is required.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are pressure relief joints needed?	Dependent on final design configuration, existing pavement to remain may require pressure relief joints.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are pavement repairs needed?	Dependent on final design configuration, existing pavement to remain may repair. Interim maintenance is required.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the maintenance of traffic scheme require additional permanent or temporary pavement?	It is anticipated that maintenance of traffic will require temporary pavement. Additional review will be required dependent on final design configuration.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does curb need to be replaced due to deteriorated condition or lack of curb reveal?	On side roads	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does sidewalk need to be replaced or installed?	On side roads	LDV1: 306.2
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are new curb ramps needed?	At ramp intersections	LDV1: 306.3
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do truncated domes need to be installed?		LDV1: 306.3.5
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there any work on side roads, service roads or ramps?	Dependent on final design configuration, the project will affect significantly many crossroads and mainline interchanges and ramps.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any special drive treatments or preferences (e.g., concrete for all drive aprons, curved aprons, etc.)?	On side roads.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Has the site received repeated resurfacings in recent years?	Maintenance information will be presented in the Existing and Future Conditions Report. Overlays applied in 2000.	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does pavement deterioration appear to be caused by drainage or geotechnical problems?	Not observed	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other pavement issues? Specify.		

STRUCTURAL ISSUES:

Indicate if the following structure issues are present or should be considered during project structural. Provide additional comments as needed. Provide a separate table for each structure.

Structure:	Design Issue	Comments	References*
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Can the structure be replaced with a prefabricated box culvert or 3-sided box?		BDM: 201
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the bridge (including foundation) meet current design live loading?		BDM: 301.4, 301.4.1, 301.4.2
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Was the existing structure built according to plan?	Existing design plans have been obtained and reviewed	BDM: 206, 401.1, 610.1
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is deck coring needed?		BDM: 412
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the deck delaminated? Specify.	Not specifically observed. Deck was re-surfaced in 1998.	BDM: 412
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is non-destructive testing needed to determine the amount of delamination?		BDM: 412
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the bridge deck in good condition?	Bridge deck appears to be in good condition.	BDM: 412
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Has a deck condition survey (Bridge Design Manual, Section 412) been performed?	Unknown	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there areas to be patched or repaired on the deck?		BDM: 403.1, 404.3
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the bridge a good candidate for an overlay? Specify type of overlay if known.	Interim overlays may occur until main span is replaced.	BDM: 404.1, 404.2
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the bridge rail meet current standards?		BDM: 209.2, 304, 410
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is a fatigue analysis required?	Previous analyses conducted. A decision on the need for further analysis will be needed if the selected alternative calls for keeping the current structure.	BDM: 402.2, 402.3
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Should all fatigue prone details be retrofitted or replaced? Specify.	None in evidence from prior study.	BDM: 402.2, 402.3
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the abutment (including backwall, beam seats, breastwall, wingwall, etc.) in good condition? Specify location and level of deterioration.	Appear to be in good condition.	BDM: 403.1

<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Is there any evidence of substructure movement (e.g., settlement, rotation)?		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Should the piers be replaced or reused? Specify.	Will depend on the alternative selected. The current bridge is built on driven piles.	BDM: 303.3
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Is there any evidence of existing beam deterioration/section loss, strands exposed, shear joints leaking or longitudinal cracks?	Some of the existing overpasses should be repainted to extend life to 2020 replacement.	BDM: 402.1
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Are the bearings in good condition?		BDM: 411
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Can the deck joint be eliminated? If not, specify what modifications are necessary.		BDM: 205.8, 205.9, 406
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Are new approach slabs needed?		BDM: 209.5
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Can hinges be removed to make the members continuous?		BDM: 402.8
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Does existing vertical and horizontal clearance meet design standards?		BDM: 207.1, 207.3, 209.8
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Is the bridge on a curve, skew or superelevation transition?	The main span is perpendicular to the river. Several overpasses are on a skew.	BDM: 207.5, 209.1
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Is there any evidence that the bridge does not meet hydraulic capacity?		BDM: 202.5, 203
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Are there existing sidewalks on or adjacent to the bridge?	Present on adjacent structures.	BDM: 209.11
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Will the structure work require any special maintenance of traffic (e.g., closing of roadway for erection of beams, special location of cut line, etc.)? Specify.		BDM: 208, 409, 304.3.5
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Is the structure in a Federal Emergency Management Agency (FEMA) flood plain?	This is a major structure crossing the Ohio River.	BDM: 203
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Is there any erosion in the existing channel?		BDM: 203.3
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Is the foundation exposed due to scour?		BDM: 203.3, 409.3
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Will there be more than 25' of channel relocation?		
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Are there any opportunities to construct the bridge faster (e.g., precast walls, segmental construction)?	This is a candidate for Constructibility Review and advanced construction technology.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Is there any railroad involvement?	Several operating rail lines in the project area. The bridge crosses two active railroads.	BDM: 209.8
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Does the bridge need to accommodate future additional roadway lanes or railroad tracks?	Additional lanes are likely to be needed. The need for additional rail lines is not determined at this time.	
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Will temporary shoring be required next to the roadway?		BDM: 208.3
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Could materials with long lead times for delivery (e.g., steel beams) have an impact on the construction schedule?	The volume of materials necessary could also be an issue.	
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Are there any problems with existing retaining walls?	Not observed	BDM: 204.9
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Are there any other structures issues? Specify	Ohio bridges most likely will have superstructure replacement at a minimum. Substructures will need to be investigated for salvage if geometrics will permit.	

TRAFFIC CONTROL ISSUES:

Indicate if the following traffic control (signals, signing, pavement markings, etc.) issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Do the existing signs need to be replaced due to poor condition?	Little sign work is needed at this time. Poor visibility for signs on the northbound section of the Brent Spence Bridge is a more pressing issue	TEM: 260
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Are there any obvious deviations from requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD)?		
<input type="checkbox"/> Yes <input type="checkbox"/> Possible <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable	Is a particular type of pavement marking desired (e.g., paint, epoxy, thermoplastic)?	Not determined at this time.	TEM: 320
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possible <input type="checkbox"/> No <input type="checkbox"/> Not Applicable	Will pavement planning affect loop detectors?	Possibly on local roads.	TEM: 450-10.7, 420-6

<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will pavement widening affect pole locations?	Possibly on local roads.	TEM: 450-6
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will resurfacing effect signal height?	Possibly on local roads.	TEM: 450-7
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does it appear that any traffic control items will fall outside the existing right of way limits (e.g., large signs, strain poles)?	Not known at this time.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any special pedestrian considerations?	The project is in an urban setting and pedestrian access should be maintained wherever possible.	TEM: 404
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any accidents that can be related to existing signal deficiencies (e.g., timing, lack of turn lanes)?	A more detailed traffic and accident analysis is being performed and will be presented as part of the Existing and Future Conditions Report.	TEM: 402-3.5
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do turn lane lengths appear to have sufficient storage capacity?	An issue for local roads within the study area.	LDV1: 401.7
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the controller need to be upgraded?	Not known at this time.	TEM: 460
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do proprietary materials need to be specified?	Not known at this time.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Should signs or signal installations be supplemented with lighting?	Not known at this time.	TEM: 408
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are any TODS signs present?	Several TODS style signs present on local roads and other urban areas within the corridor.	TEM: 207-3
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Could material with long lead times for delivery have an impact on the construction schedule (e.g., strain poles)?	Depending on the alternative selected.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	If traffic control at an intersection is being changed from stop control to signalization, does the stop condition road need to be upgraded to accommodate faster traffic?	Possibly on local roads within the corridor.	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other traffic control issues? Specify.		

MAINTENANCE OF TRAFFIC ISSUES:

Indicate if the following maintenance of traffic issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Can traffic be detoured?	Project will significantly impact mainline and local crossroad traffic. The MOT plan will need to utilize alternate detour routes, traffic detours, and traffic shifts to maintain traffic during construction on ramps and crossroads. Maintenance of traffic on mainline will be critical factor. Additional review will be required dependent on final design configuration.	TEM: 602-6
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the local alternate detour route in good condition? Are there any load limits or bridge width restrictions?	Detour routes for local crossroad traffic should be in good condition. Additional review will be required dependent on final design configuration.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will the detour route have a detrimental impact on emergency vehicles, school buses or other sensitive traffic?	The project is located within an urban area. Dependent on final design configuration, construction may likely have a detrimental impact to all local traffic.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any load limits on the proposed detour route?	Proposed detour routes for local crossroad traffic will have to be coordinated with restrictions.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the project fall within the permitted lane closure map?	As part of the MOT for final design and dependent on final design configuration, it is possible that lane closures will be required beyond what is normally allowed.	TEM: 630-4
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is existing bridge width sufficient to maintain traffic? Number of beam lines sufficient?	Dependent on final design configuration.	TEM: 640-2
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will temporary pavement be required?	Due to the scope of the anticipated project, temporary pavement will likely be required.	TEM: 640-2, 640-11
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Should temporary pavement be retained after project completion?	To be determined dependent on final design configuration.	TEM: 640-11
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will the speed limit be lowered by more than 10 mph during construction?	It is not anticipated that traffic speed limit will be reduced by more than 10 mph. Additional review will be required dependent on final design configuration and MOT plan development.	TEM: 640-18
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is the existing shoulder in good enough condition to support traffic during construction?	Shoulder reconstruction will likely be required as part of this project to support MOT.	TEM: 640-5
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does pedestrian traffic need to be maintained?	Due to the urban environment, local pedestrian traffic on the crossroads will need to be maintained.	TEM: 64-25
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will additional width be required on culverts or bridges to maintain traffic?	To be determined dependent on final design configuration.	TEM: 640-2
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will a temporary structure / run-around be required?		TEM: 640-11

<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will a cross over be utilized?	Will depend on the alternative selected and subsequent review of MOT options.	TEM: 640-11
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will the road need to be closed for short durations (e.g., 15 minutes for beam erection)?	Likely for crossroads during demolition and construction of bridges.	TEM: 640-8
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Can drive access be maintained at all times?	Drive access will be maintained at all times as much as possible.	TEM: 640-10
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Can trucks make turning movements during construction?	Will need to be incorporated in development of MOT plans.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will portable concrete barrier wall obstruct stopping sight distance?	Due to existing tight geometry, it is possible that stopping sight distance may be obstructed by temporary barrier wall.	LDV1-201.2
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will additional signal heads be needed for drives and/or side roads?	It is possible that temporary and/or relocated signal heads may be required. Will need to be incorporated in development of MOT plans.	TEM: 605-13
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any issues regarding access to the work site?	Due to the urban environment, there are a large number of access points to the project which will be both beneficial and a hindrance to the construction of the anticipated project.	TEM: 640-9
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any issues regarding construction timeframes (e.g., time of day, time limits)?	Due to the urban environment, local residences and businesses will be located immediately adjacent to construction areas.	TEM: 606-3, 640-14
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Have innovative contracting ideas been considered? Specify.	None have been contemplated to date.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there specific requirements for maintaining railroad traffic?	Grade separated crossings exist within the project area. Railroad traffic will need to be maintained at all times.	TEM: 606-19
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does it appear that the maintenance of traffic will require additional right of way?	Dependent on final design configuration.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other maintenance of traffic issues? Specify.	Dependent on final design configuration.	

RIGHT OF WAY / SURVEY ISSUES:

Indicate if right of way or survey issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will there be any work beyond the existing right of way limits?	Due to the size, scope and setting of this project, work beyond the existing right-of-way limits is expected.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will major real estate relocation acquisition be involved?	Due to the size, scope and setting of this project, acquisition of properties is expected. The scope of this effort will be determined by the alternative selected.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will relocation of residences be involved?	Due to the size, scope and setting of this project, acquisition of properties is expected. The scope of this effort will be determined by the alternative selected.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will relocation of businesses be involved?	Due to the size, scope and setting of this project, acquisition of properties is expected. The scope of this effort will be determined by the alternative selected.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does access control need to be revised?		
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any obvious encroachments?	None specifically observed, but the size and scope of this project makes the presence of encroachments likely.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Can the number of involved property owners be determined? If so, how many?	To be determined, based on the alternative selected.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will temporary parcels be needed (e.g., for drive work)?	To be determined, based on the alternative selected.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will right of way need to be acquired for an agency other than ODOT (e.g., county, city)? Specify.	The Kentucky Transportation Cabinet may also acquire right-of-way if necessary.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will additional right of way be needed for utility relocations?	Likely, based on the size and scope of this project and depending on the alternative selected.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will right of way need to be acquired for storm sewer outfalls?	To be determined, based on the alternative selected.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do property owners need to be contacted for the locations of underground items such as leach fields, septic systems or field tiles that might be effected by the proposed take?	This will become necessary when more specifics are known.	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any mineral rights considerations?		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any specific property owner concerns?	Long lead times are required for some business relocations (~2 years).	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will right of way acquisition from a railroad/railway be involved?	To be determined, based on the alternative selected.	

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Can work agreements be used?		
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does the centerline of construction match the centerline of right of way?	To be determined, based on the alternative selected.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will right of way be acquired for wetland or stream mitigation?	Possible considering the project setting and size.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other right of way or survey issues? Specify.	Low income replacement housing, community/neighborhood impact analysis, business impacts	

UTILITY ISSUES:

Indicate if the following utility issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do existing utilities need to be relocated?	Size and scope of these efforts are to be determined based on the alternative selected. Major utilities within the study area include a major Cinergy sub-station, ARTIMIS, Tele-communication ducts as well as water and sewer lines.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Can utility conflicts be minimized (e.g., by careful placement of storm sewer and underdrains)?	More will be known later in project development.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Would the project benefit from subsurface utility engineering (SUE)?	The size, scope and setting of this project makes SUE necessary.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there existing utilities on an existing structure that need to be relocated?	ARTIMIS connections and Tele-communication ducts are known relocations at this time. More may depend on the alternative selected. A complete utility survey is required.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any specific utility requirements or concerns? Specify.	Cinergy substation adjacent (west) to existing bridge is a major facility.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there facilities that require a large lead time to relocate?	Most notably, the Cinergy substation, if any alternatives affect it..	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is additional right of way needed to accommodate utility relocations?	Very likely, but this will be specifically determined based on the alternative selected.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there water or sanitary lines that will be relocated as part of the ODOT contract?	To be determined based on the alternative selected.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other utility issues? Specify	Utilities present in subway tunnels, east of the I-75 near the Western Hills Viaduct.	

PERMIT ISSUES:

Indicate if the following permit issues are present or should be considered during project development. Provide additional comments as needed.

	Design Issue	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will an individual Corps of Engineers/Environmental Protection Agency 404/401 permit be required?	Due to the size, scope and setting of this project as an Ohio River crossing, the requirement of 404/401 permit is likely. The scope of this effort will be determined by the alternative selected.	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does it appear that the project can be constructed under a nationwide 404/401 permit? If so, which permit and what specific requirements apply?	Unknown at this time. The scope of this effort will be determined by the alternative selected. This project's scope suggests an individual permit.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will a Coast Guard Permit be Required	The project involves the construction of a new bridge structure over the Ohio River, a heavily traveled commercial route.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is review by a local public agency or project sponsor required? Specify.	The City of Cincinnati, City of Covington and the Northern Kentucky Planning Commission will all be involved.	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is Airway/Highway clearance analysis required?		
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is Federal Emergency Management Agency (FEMA) approval required?	Possible given the project setting as an Ohio River crossing.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is railroad/railway coordination required?	A number of active rail lines within the project study area. Specific level of coordination activities will be determined by the alternative selected.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is State Historic Preservation Office (SHPO) coordination for work involving historic bridges or historic properties required?	OHPO database lists 231 buildings in the study area, with 17 deemed as eligible. KHC database lists 879 buildings and features, with 174 being deemed as eligible. Project area also includes 17 Historic Districts (8 in Ohio and 9 in Kentucky).	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is coordination with ODNR for work involving State Scenic Rivers, State Wildlife Areas or State Recreational Areas required?	Possible given the project setting as an Ohio River crossing.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is coordination with any other agency required? (See Location and Design Manual, Figures 1402-2 through Figure 1402-7.)	FHWA, OKI, NKAPC, USACE, USFW, OEPA, US Department of Interior, USFWS, USEPA, ODNR, OSHPO, KDFWR, KNREPC, KDWM, KSNPC, Kentucky OSA and possibly others.	

MISCELLANEOUS ISSUES:

Indicate if the following issues are present or should be considered during project development. Provide additional comments as needed

	Design Issue	Comments	References*
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will a value engineering study be required due to project cost (total cost greater than \$20 million) or project complexity?	Project cost is expected to exceed \$20 million. Value Engineering and a Continous Constructibility Review is recommended. The use of advanced and accelerated construction techniques should be considered.	

<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will warranties be used?	Not known at this time.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there aesthetic concerns? Specify.	Many local community leaders see the Brent Spence Bridge as a signature structure, or gateway to the region. Significant local interest exists.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any concerns relating to noise walls?	None have been specifically expressed as of yet. However, a number of residential communities are adjacent to the project limits on both sides of the Ohio River.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there areas available within the existing right of way for portable plans or waste and borrow sites?	Possible considering the size and scope of this project.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there specific concerns related to pedestrian access?	Necessary to maintain existing pedestrian access wherever possible.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Any concerns related to landscaping?	Specifics will be determined based on alternative selected. Several local officials consider this project as a gateway to the region.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any concerns related to existing or proposed lighting (e.g., light trespass, river navigation, airway clearance)?	Specifics will be determined based on alternative selected. Several local officials consider this project as a gateway to the region.	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other concerns? Specify.	Access concerns for businesses, emergency vehicles and other services within the project area.	

RED FLAG MAPPING:

Is a map showing locations of red flag areas attached?

Yes No (A map showing locations of red flag areas is mandatory for Major Projects.)

GEOTECHNICAL DELIVERABLES:

Include copies of plan views, geologic cross-sections, existing boring logs, and soil and rock testing data. This information should be augmented with data from ODOT's archived files of previous projects in the area. Additional information on soil survey data, glacial deposits, bedrock topography, bedrock structure, and aquifer mapping, etc. should be compiled as a GIS workspace. Both digital ortho-quarter quadrangles and U.S.G.S. quadrangles should be available for base mapping. Copies of the reference maps and ArcView files should be provided.

SCOPE, SCHEDULE AND BUDGET CONSIDERATIONS:

Based on the responses to the red flag questions, do any of the following need to be modified?

	Design Issue	Comments	References*
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Conceptual (draft) scope?	NONE	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Work limits?	NONE	LDV3: 1307.7
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Probable environmental document type?	NONE	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Major / minor / minimal classification?	NONE	LDV3: 1400
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Schedule?	NONE	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Budget?	NONE	

*Abbreviations:

AUM = Manual for Abandoned Underground Mine Inventory and Risk Assessment
 BDM = Bridge Design Manual
 LDV1 = Location and Design Manual, Volume 1
 LDV2 = Location and Design Manual, Volume 2
 LDV3 = Location and Design Manual, Volume 3
 SSI = Specifications for Subsurface Investigations
 TEM = Traffic Engineering Manual
 EPM = Environmental Process Manual