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I. INTRODUCTION

The purpose of this Alternatives Study is to gather critical information necessary to develop and evaluate alternatives for the possible reconstruction of a portion of US 641 in Lyon and Caldwell Counties. The southern terminus for the proposed project is from I-24 or the Wendell H. Ford Western Kentucky Parkway (hereafter referred to as the Ford Parkway) at or near Eddyville in Lyon County. The northern terminus is the proposed improved section of US 641 north of Fredonia in Caldwell County, for which the design phase has been completed.

Through this Alternatives Study, the Kentucky Transportation Cabinet (KYTC) is able to ensure that future project improvements to US 641 effectively address identified transportation needs. It also ensures that the project development efforts meet the principles of Federal requirements as defined in the National Environmental Policy Act (NEPA).

This report provides an introduction and description of the proposed project; identifies and analyzes existing conditions; presents an environmental and a geotechnical overview of the project area; summarizes the public and agency input received to date on the project; and provides recommendations on future project development.

Report Contents

- General Information
- Study Area Characteristics
- Public and Agency Input
- Preliminary Environmental Overview
- Environmental Justice and Community Impact Report
- Preliminary Geotechnical Overview
- Future Traffic Considerations
- Purpose and Need
- Recommendations and Conclusions

A. Project Location

The study area for the US 641 Alternatives Study runs from a point at or near Eddyville in southern Lyon County northeasterly to the proposed improvement of US 641 north of Fredonia in Caldwell County, just south of the Caldwell-Crittenden County line. The project study area is shown in **Figure 1**. A milepoint log of key points along existing US 641 is provided in **Table 1**.

The 2000 U.S. Census reported a population of 8,080 for Lyon County and 13,060 for Caldwell County.

The original town of Eddyville was named as the county seat when Lyon County was formed in 1854. The population of Eddyville in 2000 was 2,350. Lyon County encompasses the northeast region of the Land Between the Lakes National Recreational Area. This area was formed when the Cumberland and Tennessee Rivers were dammed, forming Barkley Lake on the east and Kentucky Lake on the west. A canal connects the two lakes. The Land Between the Lakes is a designated recreational space with marinas, campgrounds, and trails managed by the U.S. Forest Service. The Lakes area plays a primary role in the economy of Lyon County and Eddyville.

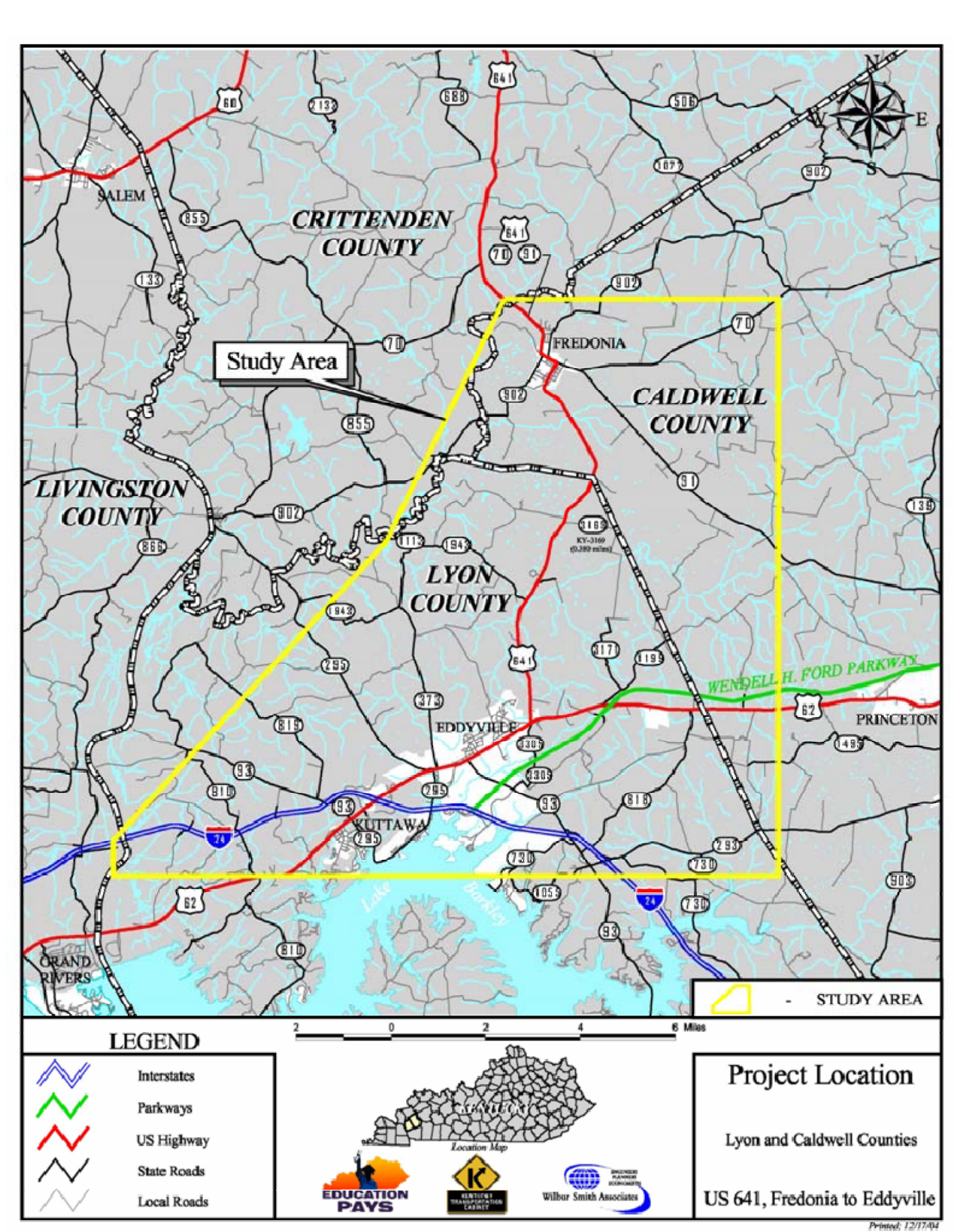


Table 1. US 641 Route Log

Milepoint	Description of Intersecting Road or Feature
<i>Lyon County</i>	
0.000	Begin Existing US 641 Within Study Area
0.000	US 62 (Western Kentucky Factory Outlet)
0.030	Chestnut Road
0.271	Business Row Road
0.279	Depot Road
0.512	Illinois Central Railroad Bridge - B00001
1.351	Cash Road
1.810	White Dorroh Road
2.094	Skinframe Creek Branch Bridge - B00002
2.533	Skinframe Creek Bridge - B00003
2.668	KY 1943
3.155	KY 3169
3.279	Breezy Loop
4.548	Beck Road
4.645	Coleman - Doles Road
5.715	Lyon/Caldwell County Line
<i>Caldwell County</i>	
0.000	Lyon/Caldwell County Line
0.820	Oak Road
1.433	Easley Creek Bridge - B00042
1.587	Mill Bluff Road
2.366	Old Dycusbury - Fredonia Road
2.384	Railroad Crossing
2.877	KY 70 (West Main Street)
3.081	KY 902 (Piney Lane)/Miller Street
3.202	KY 902 (Bakers Lane)
4.620	Livingston Creek Bridge - B00071
4.629	Caldwell/Crittenden County Line
4.629	End Study Area

Source: KYTC Highway Information Systems (HIS) Data, 2003

Kentucky Lake was formed when the Tennessee River was dammed by the Kentucky Dam, beginning in 1938. The dam generates electricity which is controlled by the Tennessee Valley Authority. This resulted in a shipping connection to Nashville from the Ohio and Mississippi rivers in Kentucky and other inland areas in Western Kentucky and Tennessee. Lake Barkley was formed when the Cumberland River was dammed by Barkley Dam in 1966 by the U.S. Corp of Engineers. Two towns, Kuttawa and Eddyville, were in its path and had to be relocated. Eddyville was relocated a few miles north to an open field. Foundations of Old Eddyville can still be seen around Lake Barkley when the water is down during the winter.

Originally settled in 1798, Eddyville was favored for its location on the Cumberland River. In this region of Kentucky, the Cumberland River played a role in shipping iron ore produced in the nearby western coal fields to New Orleans. Iron ore production was most significant during the mid-1800s. However, with the disruption caused by the Civil War, it did not recover to full capacity afterwards. Ruins of furnaces are still prevalent in

the region today. Farmers turned instead to the production of dark leafed tobacco which then became a primary cargo on the Cumberland River. The production of this type of tobacco was so high that the area became known as the “Black Patch” by the turn of the twentieth century.

Eddyville is also home to the Kentucky State Penitentiary, built in 1886 and nicknamed the “Castle on the Cumberland,” which is often a tourist photo opportunity because of its imposing stone construction.

Agriculture dominates the landscape with land devoted to livestock, primarily in Caldwell County, and tobacco, soybeans, and corn grown throughout the area. Agricultural lands devoted to grain and tobacco production or livestock grazing have enveloped the countryside so that forested areas are scattered.

Caldwell County has a section of the Trail of Tears running from Princeton, the county seat, to about 15 miles southeast of Fredonia. This was the route followed by the Cherokee Indians on their forced-removal to Oklahoma from the Great Smoky Mountains. Fredonia, located in the northwest corner of Caldwell County, was founded in 1836. Its current population is around 500 and the citizens proclaim that it is “A Small Valley with a Big Heart.”

B. Study Objectives and Tasks

The primary objectives of this study are to:

- Better define the project purpose and need;
- Identify and evaluate potential improvement alternatives; and
- Make recommendations for future improvements.

To accomplish these objectives, the study is also intended to:

- Afford an opportunity for public and agency input so that project needs, improvement alternatives, and potential issues and concerns can be clearly defined and addressed at the earliest stage of project development;
- Identify potential environmental issues; and
- Help expedite the project development process.

Specific tasks involved with this study include:

- Initiate contact with public officials and agencies;
- Listen to and share information with the public;
- Define project goals;
- Determine and analyze existing conditions and future needs;
- Identify preliminary environmental, geotechnical, and other concerns;
- Develop and evaluate project alternatives; and
- Provide recommendations.

C. Programming and Schedule

Currently, the only funds programmed for this project are the approximately \$1,500,000 for the Design phase of Priority Section 2, originally defined from KY 70 near Mexico to a section break west of Fredonia. Subsequent phases of project development, including Right-of-Way Acquisition, Utility Relocation, and Construction, were not scheduled in the KYTC's *Kentucky Six-Year Highway Plan FY 2003-2008*. Additional funding was also not included in the KYTC's *Kentucky Six-Year Highway Plan FY 2005-2010*.

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II. EXISTING CONDITIONS

Characteristics of US 641 and other major highways in the study area are identified in the following sections. Included are data and/or information on transportation systems, geometric characteristics, bridges, traffic conditions, crash history, and planned highway improvements. Features of the highways in the study area are summarized from the KYTC Highway Information System (HIS) database. Photographs of some features in the study area are contained in **Appendix A** and throughout this chapter.

Although US 641 in Crittenden County is outside of the defined study area, data is included in the summary tables for reference. Maps and table summaries located throughout this report may also include other roadway segments that fall outside of the project study area.

A. Highway Systems

Major highway systems information is shown in **Appendix B, Table B-1**, including the State Primary Road System, Functional Classification System, National Highway System (NHS), National Truck Network (NN), and Designated Truck Weight Class. Other highway systems information is displayed in **Appendix B, Table B-2**, including the Defense Highway Network, Forest Highway System, and others. The highway system information for US 641 is summarized in **Table 2**. Major highway systems for US 641 in the study area are as follows:

- State-maintained roads in Kentucky are classified into one (1) of five (5) categories under the State System, ranging from the highest order classification to the lowest as follows: Interstates, Parkways, Other State Primary roads, Rural Secondary roads, and Supplemental roads.

US 641 is currently classified as a State Primary route from its intersection with US 62 in Lyon County (MP 0.000) to the Lyon-Caldwell County Line (MP 5.715) and in Caldwell County from the Lyon-Caldwell County Line (MP 0.000) to the Caldwell-Crittenden County Line (MP 4.629). State Primary routes are those routes which are considered to be long-distance, high-volume intrastate routes that are of statewide significance. The routes have mobility as their prime function and are distinguished by high traffic-carrying capacity. These routes link major urban centers within the state and/or serve as major interregional corridors.

- One of 13 functional classification categories is assigned to each state-maintained road in Kentucky, based on the function the road provides and whether the road is an urban or rural road. These are classified from highest to lowest and by geographic designation as: Rural Interstate, Urban Interstate, Other Rural Freeways and Expressways (Principal Arterial), Other Urban Freeways and Expressways (Principal Arterial), Other Rural Principal Arterial, Other Urban Principal Arterial, Rural Minor Arterial, Urban Minor Arterial, Rural Major Collector, Urban Collector, Rural Minor Collector, Rural Local, and Urban Local.

In the study area, US 641 is classified as a Rural Minor Arterial. According to Federal criteria, Rural Minor Arterials provide a link to and between cities, towns, and other major traffic generators (e.g., major resorts) and help to form an integrated network. They are spaced at appropriate intervals so that all developed areas of the state are within a reasonable distance of an arterial. They are characterized by (1) traffic densities greater than roads that only provide local access, (2) relatively high overall travel speeds, and (3) minimum interference to through movements.

Table 2. US 641 Highway Systems

US 641
<p>Lyon County – MP 0.000 to MP 5.715 (US 62 to the Lyon-Caldwell County Line)</p> <ul style="list-style-type: none"> ○ State System – State Primary ○ National Truck Network – No ○ National Highway System – No ○ Functional Classification – Rural Minor Arterial ○ Truck Weight Class – AAA ○ Defense Highway Network – Yes
<p>Caldwell County – MP 0.000 to MP 4.629 (Lyon-Caldwell County Line to Caldwell-Crittenden County Line)</p> <ul style="list-style-type: none"> ○ State System – State Primary ○ National Truck Network – No ○ National Highway System – No ○ Functional Classification – Rural Minor Arterial ○ Truck Weight Class – AAA ○ Defense Highway Network – Yes
<p>Crittenden County – MP 0.000 to MP 7.494 (Caldwell-Crittenden County Line to US 60)</p> <ul style="list-style-type: none"> ○ State System – State Primary ○ National Truck Network – No ○ National Highway System – No ○ Functional Classification – Rural Minor Arterial ○ Truck Weight Class – AAA ○ Defense Highway Network – Yes

Source: KYTC Highway Information Systems (HIS) Data, 2003

- The National Highway System (NHS), first established in 1991 by the Intermodal Surface Transportation Efficiency Act (ISTEA), includes Interstate Highways and other significant Principal Arterials important to the nation's economy, defense, and mobility. US 641 is not on the NHS. However, the two possible southern termini, I-24 and the Ford Parkway, are both on the NHS.
- The National Truck Network (NN) includes roads designated for use by commercial trucks with increased dimensions (102 inches wide; 13 feet, 6 inches high; semi-trailers up to 53 feet long; and trailers up to 28 feet long – not to exceed two (2) trailers per truck). In the study area, US 641 is not on the NN. However, the two possible southern termini, I-24 and the Ford Parkway, are both on the NN.
- Kentucky Revised Statutes require weight limits on the state-maintained highway system. There are three (3) weight classification limits: (1) AAA – 80,000 lbs. maximum gross vehicle weight; (2) AA – 62,000 lbs. maximum gross vehicle weight; and (3) A – 44,000 lbs. maximum gross vehicle weight. In the study area, US 641 has a weight classification limit of AAA. [NOTE: For special circumstances, occasional exceptions may be granted for over-dimensional or overweight vehicles by permits issued by the KYTC, Division of Motor Carriers.]

B. Geometric Characteristics

Geometric characteristics for major routes in the study area are listed in **Appendix B, Table B-3**, including the number of lanes, lane widths, shoulder widths, roadway type, local terrain, route speed limits, and pavement type. The percent passing sight distance information was not available in KYTC's HIS database for most of the study area routes. In the study area, US 641 has the following characteristics:

- An undivided highway cross-section;
- Rolling terrain;
- In Lyon County, two (2) 12-foot driving lanes from MP 0.000 to MP 0.108 and two (2) 11-foot wide lanes from MP 0.108 to 5.607;
- In Caldwell County, two (2) ten-foot lanes from MP 0.000 to MP 2.319, two (2) 12-foot lanes from MP 2.319 to 2.877, and two (2) 11-foot lanes from MP 2.877 to MP 4.629;
- Shoulders of approximately four (4) feet, except for 10-foot shoulders between MP 0.000 and MP 0.108 in Lyon County;
- High flexible pavement; and
- Posted speed limits of 55 mph, except for a section in Fredonia in Caldwell County from MP 2.218 to MP 3.308 where it is posted at 35 mph.

C. Bridges

Bridge data for the routes considered in this study are listed in **Appendix B, Table B-4**. According to the KYTC, a bridge structure is eligible for Federal rehabilitation funds when it meets two criteria: (1) the bridge has a sufficiency rating below 50.0 and (2) the bridge is considered either structurally deficient or functionally obsolete:

- Structurally deficient bridges cannot carry the weight they were originally designed to carry.

- Bridges are considered to be functionally obsolete if the bridges or bridge approaches do not meet today's geometric design standards.

Three (3) bridges along US 641 are considered to be functionally obsolete:

- B00002 over a branch of Skinframe Creek at MP 2.094 in Lyon County;
- B00003 over Skinframe Creek (B00003) at MP 2.533 in Lyon County; and
- B00042 over Easley Creek at MP 1.433 in Caldwell County.

Currently, no bridges along US 641 in the study area meet both of the rating criteria, so none are eligible for Federal rehabilitation funds. However, one bridge in Lyon County (B00003 over Skinframe Creek at MP 2.533) is very close to meeting the criteria needed for the use of Federal rehabilitation funds, since it has a rating of 51.0 and is classified as functionally obsolete.



Paducah and Louisville Bridge over KY 373 in Lyon County

D. Traffic and Level of Service

Existing (Year 2003) and estimated future (Year 2025) traffic and operational conditions for each major route in the study area are discussed in the following subsections.

1. Existing Traffic Volumes (Year 2003)

Existing traffic volumes (Year 2003) for segments of the study area routes were summarized based primarily on information provided in the HIS database. If unavailable, truck percentages were derived for the study area routes using default values from the Division of Multimodal Programs' *2002 Traffic Forecasting Report* or estimated based on similar segments and/or roadways in the project area. Traffic characteristics for all routes in the study area are shown in **Figure 2** and in **Appendix B, Table B-5**. Traffic data for US 641 is summarized in **Table 3**.

The existing traffic volumes along US 641 in the study area range between 3,080 and 3,400 vehicles per day (vpd). Existing truck percentages are approximately 16.8% of the total traffic along the study route. In comparison, existing traffic volumes along I-24 range between 16,100 and 25,900 vpd. Traffic volumes along the Ford Parkway range between 7,610 and 10,300 vpd.

Figure 2. Year 2003 Traffic and Level of Service

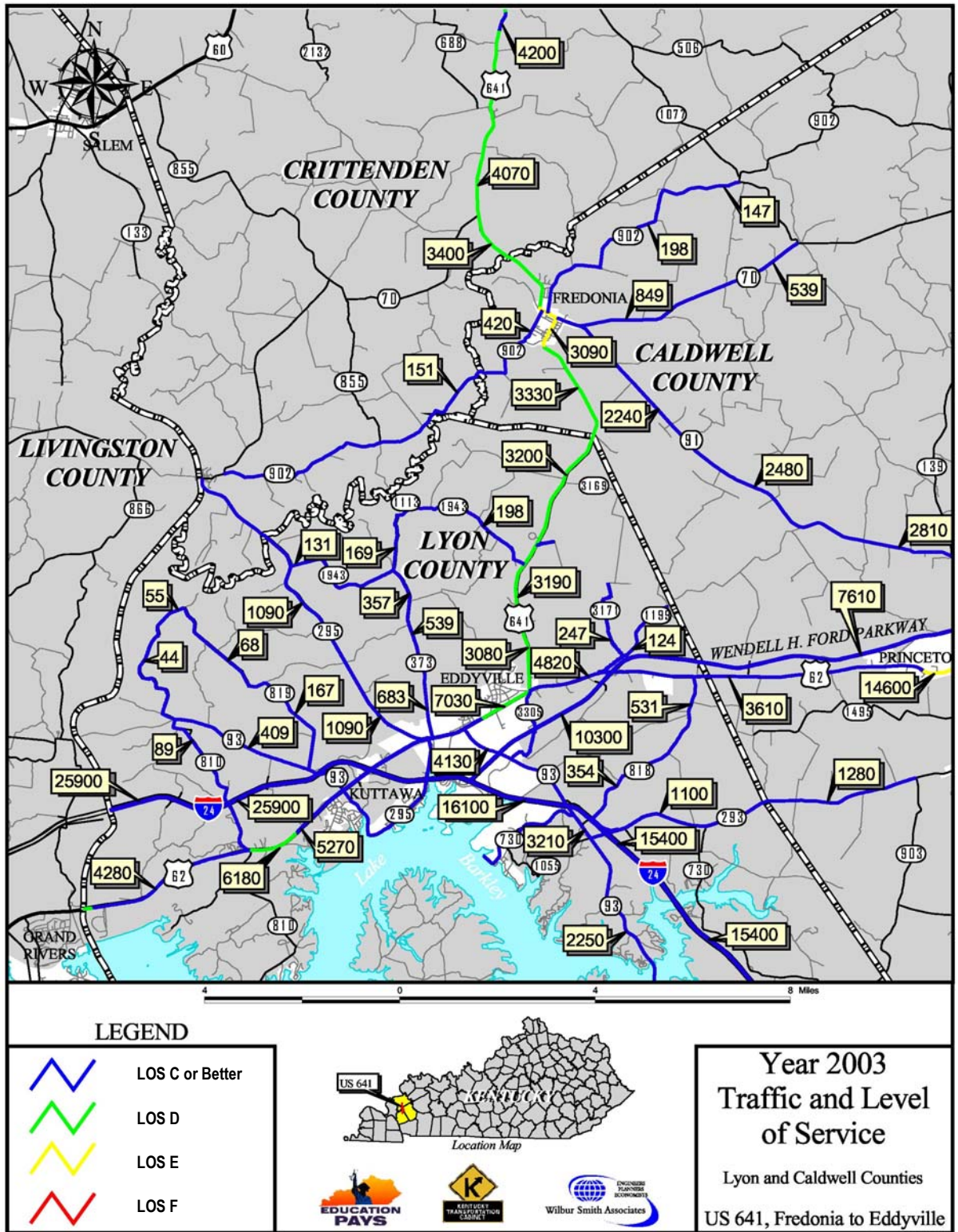


Table 3. US 641 Current and Future Traffic Characteristics and Level of Service (LOS)

Begin MP	End MP	Length (miles)	% Trucks	2003 ADT	2003 LOS	Annual Growth Rate	2025 ADT	2025 LOS
Lyon County								
US 641 MP 0.000 to MP 5.715								
0.000	0.108	0.108	16.8	3080	C	2.2%	5000	D
0.108	0.512	0.404	16.8	3080	D	2.2%	5000	D
0.512	2.668	2.156	16.8	3190	D	2.2%	5100	D
2.668	5.715	3.047	16.8	3200	D	2.2%	5200	D
Caldwell County								
US 641 MP 0.000 to MP 4.629								
0.000	1.587	1.587	16.8	3330	D	2.2%	5400	D
1.587	2.218	0.631	16.8	3090	D	2.2%	5000	D
2.218	2.366	0.148	16.8	3090	E	2.2%	5000	E
2.366	2.530	0.164	16.8	3090	E	2.2%	5000	E
2.530	2.877	0.347	16.8	3090	E	2.2%	5000	E
2.877	3.308	0.431	16.8	3400	E	2.2%	5500	E
3.308	4.629	1.321	16.8	3400	D	2.2%	5500	D
Crittenden County								
US 641 MP 0.000 to MP 7.494								
0.000	1.175	1.175	16.8	3400	D	1.5%	4700	D
1.175	2.960	1.785	10.2	4070	D	1.5%	5600	E
2.960	3.188	0.228	10.2	4070	E	1.5%	5600	E
3.188	3.630	0.442	8.3 ¹	4200	E	1.5%	5800	E
3.630	5.030	1.400	8.3 ¹	4200	D	1.5%	5800	E
5.030	5.038	0.008	8.3 ¹	4200	D	1.5%	5800	D
5.038	5.430	0.392	8.3 ¹	4200	C	1.5%	5800	C
5.430	5.464	0.034	8.3 ¹	4200	D	1.5%	5800	D
5.464	5.708	0.244	8.3 ¹	4200	D	1.5%	5800	E
5.708	6.520	0.812	8.3 ¹	4940	D	1.5%	6800	E
6.520	6.986	0.466	8.3 ¹	4940	E	1.5%	6800	E
6.986	7.028	0.042	8.3 ¹	4940	E	1.5%	6800	E
7.028	7.494	0.466	8.3 ¹	6170	E	1.5%	8500	E

Source: KYTC Highway Information Systems (HIS) Database, 2003 and Wilbur Smith Associates, 2004

¹ Default value - 2002 Traffic Forecasting Report, KYTC Division of Multimodal Programs

2. Level of Service (Year 2003)

Level of Service (LOS) is a qualitative measure of highway traffic conditions, as defined in the *2000 Highway Capacity Manual*, published by the Transportation Research Board (TRB). Individual levels of service characterize these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six (6) levels of service are defined and given letter designations from A to F, with LOS A as the best condition, representing free flow conditions, and ranging to LOS F, the worst condition, representing severe congestion and/or time delays. Typically, a minimum of LOS D is considered acceptable in urban areas and LOS C is considered acceptable in rural areas. Existing LOS for each route in the study area is shown in **Figure 2** and in **Appendix B, Table B-5**. **Table 3** shows the existing LOS calculated for segments of US 641 in the study area.

Level of Service (LOS)

- LOS is used to describe traffic conditions, where LOS A is the best and LOS F is the worst.
- US 641 currently operates at LOS D and E in the study area.
- All other study area routes operate at LOS C or better except US 62 in Eddyville.

Almost all of US 641 in Lyon County (MP 0.108 to MP 5.715) currently operates at LOS D, while the Caldwell County segment of US 641 (4.629 miles) operates at LOS D and LOS E in the study area. All other study area routes currently operate at LOS C or better except US 62 in Eddyville, which operates at LOS D.

3. Estimated Future Traffic (Year 2025) Based on Historic Growth

Future traffic was estimated using historic growth rates and assuming no future improvements along the portion of US 641 in the study area. The growth rates were based on KYTC's historic traffic counts for Lyon and Caldwell Counties. Traffic along US 641 was forecasted with a compounded annual growth rate of 2.2% through Year 2025, resulting in an increase of over 60 percent from 2003 to 2025, or an ADT range from 5,000 to 5,500 vpd. Projected future year traffic volumes are shown in **Figure 3** and **Appendix B, Table B-5**. US 641 future traffic is summarized in **Table 3**.

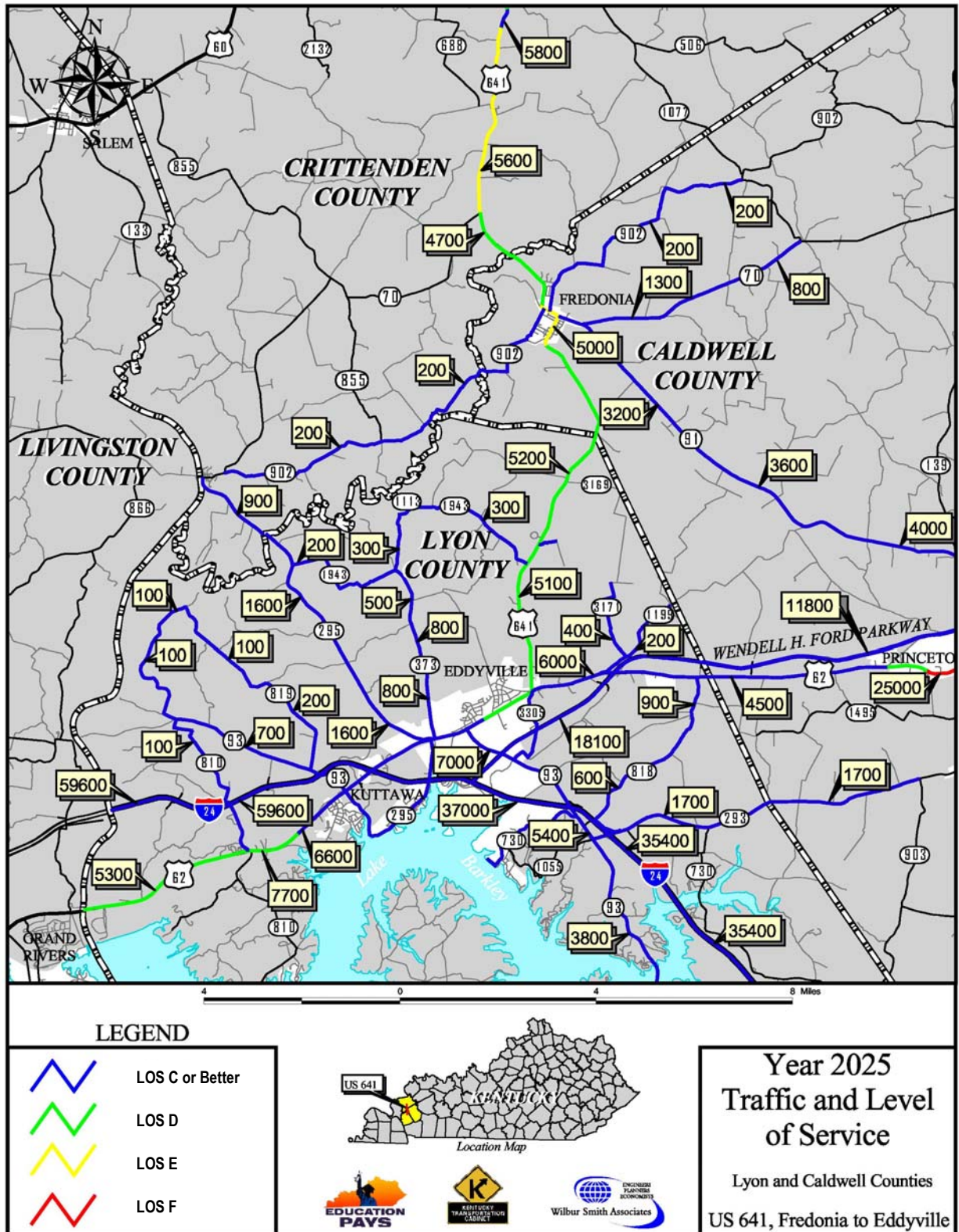


Traffic along US 641 slowed because of a mowing crew

4. Estimated Future Level of Service (Year 2025) Based on Historic Growth

The study portion of US 641 in Lyon County (5.715 miles) is expected to operate at LOS D in the Year 2025, while the Caldwell County segment of US 641 (4.629 miles) would continue to operate at LOS D and E. Most of the other study area routes are expected to operate at LOS C or better in the Year 2025. The estimated future LOS is shown for the study area in **Figure 3** and in **Appendix B, Table B-5**. Future LOS for US 641 is summarized in **Table 3**.

Figure 3. Year 2025 Traffic and Level of Service with No Improvements



E. Crash Analysis

Crash data for major routes in the study area were considered for a four-year period (January 1, 1999 to December 31, 2002). The location of crashes with valid milepoint designations, recorded in the HIS database (1999) and Collision Report Analysis for Safer Highways (CRASH) database (2000-2002), are shown by corridor segment in **Appendix B, Table B-6** and summarized in **Table 4** and by spot locations (0.1 miles in length) in **Appendix B, Table B-7** and summarized in **Table 5**.

A spot location or a segment of roadway is considered to be a high crash location when its crash rate is higher than the average crash rate for similar roads in the state. This is measured by the Critical Rate Factor (CRF), i.e., the ratio of the crash rate for the spot or segment compared to the critical crash rate for similar roads. When the critical rate factor is greater than 1.0, crashes may not be occurring randomly at a given location. The critical rate factors are calculated using the methodology presented in the Kentucky Transportation Center's *Analysis of Traffic Accident Data in Kentucky (1997-2001)*¹.

As part of this process, each crash was classified into one (1) of three (3) categories based on the degree of severity: fatal, injury, or property-damage-only. During the period studied, there were no fatal, twenty-four (24) injury, and fifty-seven (57) property-damage-only crashes along US 641 in Lyon and Caldwell Counties.

Figure 4 displays the crash data by severity and location. As shown in **Table 4** and **Figure 4**, no high crash segments were found along US 641 in Lyon and Caldwell Counties, indicating that historical crash rates are not higher than those for similar highways in Kentucky. However, as shown in **Table 5**, four (4) high crash spot locations were identified, all within Fredonia. A fifth location was identified along US 62 at US 641 as shown in **Appendix B, Table B-7**. Additional high crash segment and spot locations were identified in close proximity to the study area along US 641 in Crittenden County.



High crash spot location along US 641 in Fredonia

¹ Agent and Pigman. *Analysis of Traffic Accident Data in Kentucky (1997-2001)*. Kentucky Transportation Center. August 2002.

Table 4. US 641 Vehicle Crash Segment Analysis

Begin MP	End MP	Length (Miles)	ADT	Vehicle Crashes				Critical Rate Factor
				Fatal	Injury	PDO	Total	
Lyon County								
0.000	0.512	0.512	3080	0	0	0	0	0.00
0.512	2.668	2.156	3190	0	5	13	18	0.46
2.668	5.715	3.047	3200	0	4	9	13	0.25
Caldwell County								
0.000	1.587	1.587	3330	0	2	6	8	0.26
1.587	2.877	1.290	3090	0	8	10	18	0.72
2.877	4.629	1.752	3400	0	5	19	24	0.70
Crittenden County								
0.000	1.175	1.175	3400	0	10	16	26	1.04
1.175	3.188	2.013	4070	0	14	18	32	0.71
3.188	5.708	2.520	4200	0	12	16	28	0.50
5.708	7.028	1.320	4940	0	4	15	19	0.51
7.028	7.494	0.466	6170	0	3	7	10	0.51

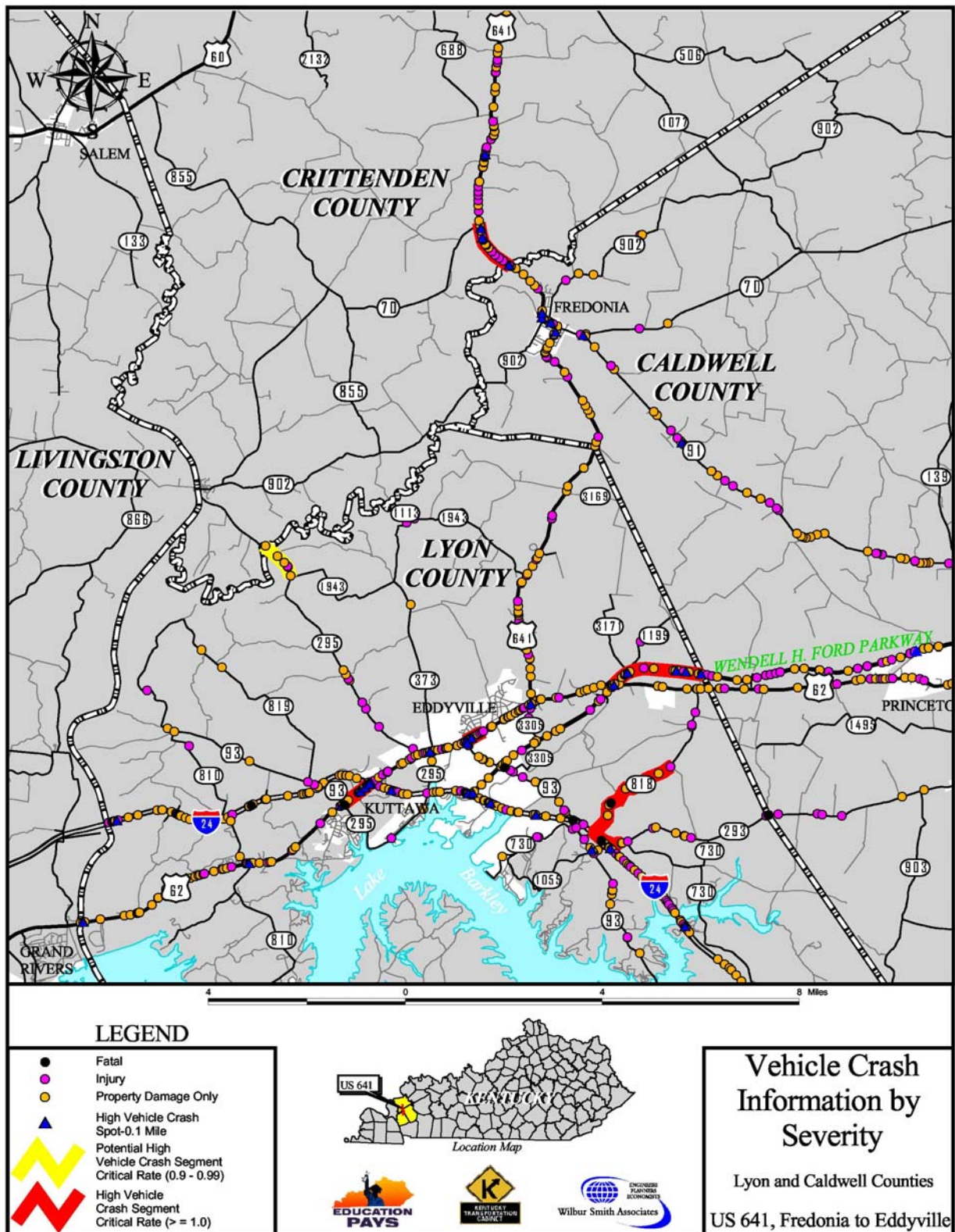
Source: Kentucky Transportation Cabinet, HIS Database, 2003 and CRASH Database, 1999 – 2002

Table 5. US 641 Vehicle Crash Spot Analysis

Begin MP	End MP	Length (Miles)	ADT	Vehicle Crashes				Critical Rate Factor
				Fatal	Injury	PDO	Total	
Caldwell County								
2.700	2.800	0.100	3090	0	1	4	5	1.15
3.000	3.100	0.100	3400	0	1	4	5	1.08
3.200	3.300	0.100	3400	0	2	6	8	1.74
3.302	3.402	0.100	3400	0	1	4	5	1.08
Crittenden County								
0.000	0.100	0.100	3400	0	1	4	5	1.08
0.500	0.600	0.100	3400	0	2	2	4	0.87
0.800	0.900	0.100	3400	0	2	4	6	1.30
1.000	1.100	0.100	3400	0	2	3	5	1.08
2.300	2.400	0.100	4070	0	1	3	4	0.78
2.512	2.612	0.100	4070	0	3	3	6	1.17
2.900	3.000	0.100	4070	0	2	2	4	0.78
3.900	4.000	0.100	4200	0	1	3	4	0.77
5.661	5.761	0.100	4570	0	5	1	6	1.09
5.800	5.900	0.100	4940	0	0	4	4	0.69
6.700	6.800	0.100	4940	0	1	4	5	0.87
7.437	7.537	0.100	6170	0	2	6	8	1.21

Source: Kentucky Transportation Cabinet, HIS Database, 2003 and CRASH Database, 1999 – 2002

Figure 4. Vehicle Crash Information by Severity



F. Adequacy Ratings

The KYTC HIS database provides an adequacy rating percentile for many major routes. This rating is based on condition, safety, and service of the route. Condition considers only the condition of the road's pavement. Safety is evaluated based on lane width, shoulder width, median type, alignment, and critical rate. Service considers the route's volume-to-capacity ratio and access control. **Figure 5** depicts the adequacy ratings assigned to various study area routes and the percentile group, divided into fifths, in which each route is included.

If a road or road segment falls into the lowest percentile groups, this indicates that a problem may exist that merits further investigation. As shown in **Figure 5**, the ratings for the study portion of US 641 in Lyon County (5.715 miles) are in the highest percentile: between 81% and 100%. All of US 641 in Caldwell County (4.629 miles) falls in the three lowest percentiles: between 0% and 60%.

G. Environmental Footprint

An environmental footprint was developed for the US 641 project area. This preliminary environmental analysis identified potential issues and concerns within and surrounding the defined project area.

A local area Geographic Information System (GIS) was assembled for this project using environmental resource information data collected from numerous sources that include: Federal, state, and local databases; agency contacts; field investigations; and existing in-house data. The compiled data was geo-referenced as needed using the GIS developed for the project. Windshield surveys of the project area included consideration of known and unknown environmental issues within the project area.

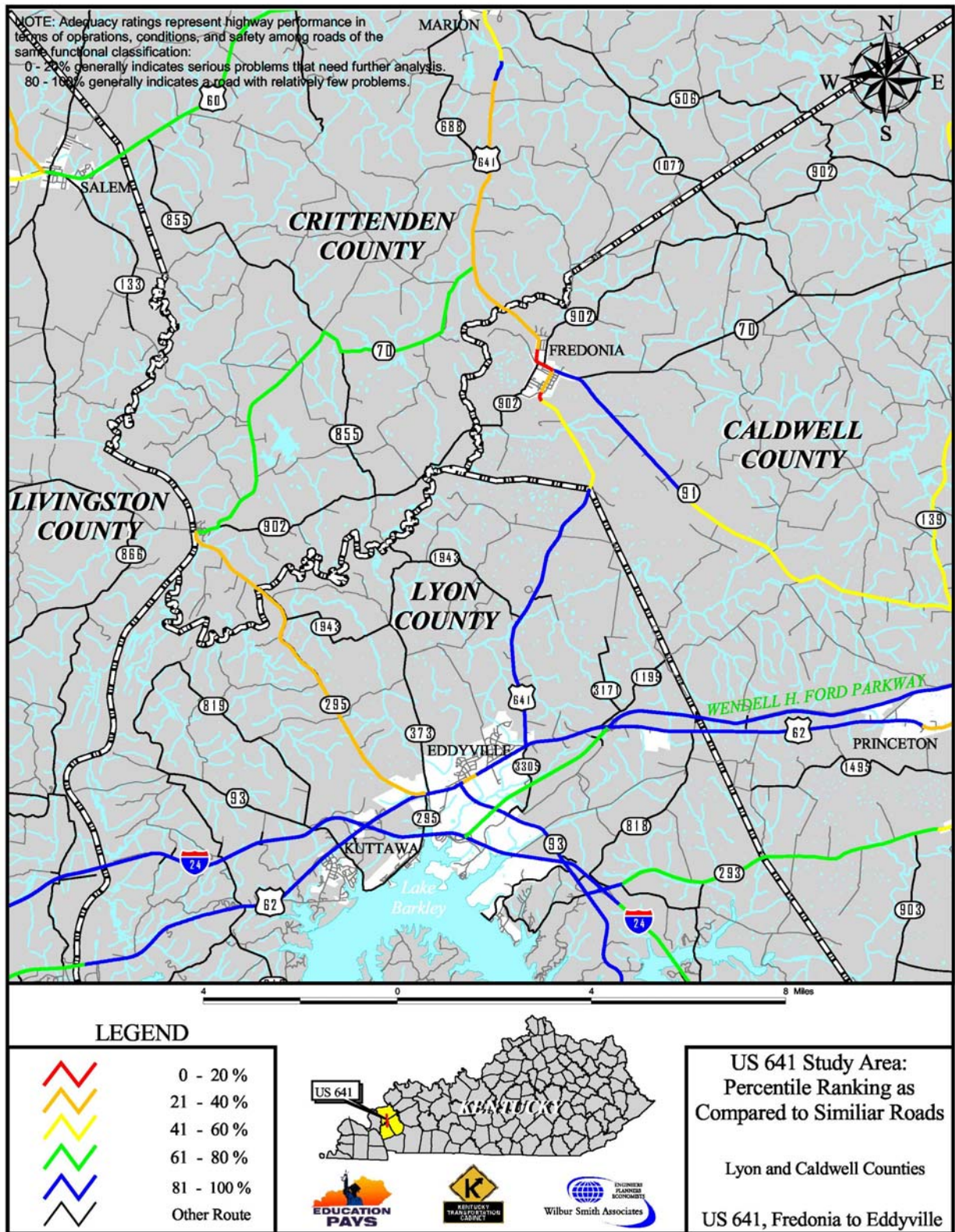
The environmental footprint, shown in **Appendix B, Figure B-1**, includes a variety of features including: utilities, streams, EPA sites, cemeteries, and churches. The aerial photograph highlights structures, terrain and potential prime farmland. Other features important to this project and highlighted on the environmental footprint are the West Kentucky State Penitentiary Farm, Fredonia Quarry, Mill Bluff Springs, and a geotechnical structural low. Geotechnical data was provided by the Division of Materials and Kentucky Geological Survey as part of the initial resource agency coordination. The information received from both agencies is described in more detail in the following chapter.

In addition to the environmental footprint, Environmental and Geotechnical Overviews were conducted on eight (8) alternatives as discussed in **Chapter VI**. The overviews provided additional detail within a more defined area. The Environmental and Geotechnical Overviews are discussed in **Chapters VIII and IX**, respectively.

H. Programmed Highway Improvements

The proposed improvement to US 641 in this Alternatives Study would connect with a programmed improvement to US 641 in Crittenden County from Marion to Fredonia, as shown in **Table 6**. Design for this project has been completed and \$3,300,000 and \$3,520,000 was programmed for right-of-way purchase and utility relocation, respectively, in Fiscal Year 2004.

Figure 5. US 641 Study Area: Percentile Ranking as Compared to Similar Roads



Source: KYTC Highway Information Systems (HIS) Data, 2003

Table 6. Six-Year Highway Plan Improvement Projects

Route	Item Number	Begin MP	End MP	Length (miles)	Project Description	Scope of Work	Stage of Project Development	Fiscal Year Scheduled	Estimated Phase Cost
Lyon County									
I-24	01-7.00	35.200	35.300	0.100	Add Restroom Facility to I-24 Eastbound & Westbound Weigh Stations in Lyon County	Weigh Station Rehab (P)	Construction	2003	\$950,000
							Total:		\$950,000
US 62	01-307.01	9.352	12.213	2.900	From End of 4-Lane at Eddyville East to Western Kentucky Parkway	Major Widening (O)	Right of Way	2002	\$2,000,000
							Utility Relocation	2004	\$4,000,000
							Construction	2006	\$11,000,000
						Total:		\$17,000,000	
Caldwell County									
KY 139	02-141.00	7.573	8.173	0.600	Reconstruct Substandard Curves @ Rock Springs Hill	Safety (P)	Design	2006	\$400,000
							Total:		\$400,000
N/A	02-153.00	N/A	N/A	N/A	New Connector From Hopkinsville Rd (KY 91) to Wilson Warehouse Rd (KY 293) Northeast of Princeton	New Route (O)	Design	2007	\$900,000
							Total:		\$900,000
KY 126	02-1059.00	2.260	2.360	0.100	Replace Bridge Over Dreen Creek (B 23) 1.0 mile Northwest of Jct. KY 672	Bridge Replacement (P)	Design	2005	\$250,000
							Right of Way	2007	\$50,000
							UtilityRelocation	2007	\$100,000
							Total:		\$400,000
WK 9001	02-2011.00	18.260	25.655	7.400	Western KY Parkway From MP 18.26 to MP 25.655, Begin PCC Pavement	Pavement Rehab - PRK (P)	Design	2003	\$70,000
							Construction	2003	\$4,000,000
							Total:		\$4,070,000
WK 9001	02-5005.00	15.2	15.72	0.500	Correct Rockfall Hazard at MP 15.2 to MP 15.72 Eastbound & Westbound	Rockfall Mitigation (P)	Construction	2002	\$1,100,000
							Total:		\$1,100,000
Crittenden County									
US 641	01-187.20	N/A	N/A	5.200	Relocation of US 641 from Marion to I-24/Wendell H. Ford Parkway; Marion to KY 70 Near Mexico	Relocation (O)	Design	2002	\$1,500,000
							Right of Way	2004	\$3,300,000
							Utility Relocation	2004	\$3,520,000
							Construction	2006	\$22,000,000
							Total:		\$30,320,000
US 641	01-187.30	N/A	N/A	5.000	Relocation of US 641 from Marion to I-24/Wendell H. Ford Parkway; from KY 70 near Mexico	Relocation (O)	Design	2005	\$1,500,000
							Total:		\$1,500,000
KY 91	01-326.01	11.162	11.262	0.100	Operation of cave-in-rock ferry at Ohio River	Ferry Operation (P)	Construction	2003	\$262,000
						Total:		\$262,000	
KY 91	01-326.02	11.162	11.262	0.100	Operation of cave-in-rock ferry at Ohio River	Ferry Operation (P)	Construction	2004	\$262,000
						Total:		\$262,000	
KY 91	01-326.03	11.162	11.262	0.100	Operation of cave-in-rock ferry at Ohio River	Ferry Operation (P)	Construction	2005	\$262,000
						Total:		\$262,000	
KY 91	01-326.04	11.162	11.262	0.100	Operation of cave-in-rock ferry at Ohio River	Ferry Operation (P)	Construction	2006	\$262,000
						Total:		\$262,000	

Source: Kentucky Six-Year Highway Plan FY 2003-2008

In addition to the proposed improvement to US 641, there are other projects in Lyon and Caldwell Counties, as summarized in **Table 6**, that are in the KYTC's *Kentucky Six-Year Highway Plan FY 2003-2008*, usually referred to as the Six-Year Highway Plan. Major activities include:

- \$17 million for right-of-way purchase, utility relocation, and construction for a major widening of US 62 in Lyon County, from the existing 4-lane section in Eddyville to the interchange with the Ford Parkway. This project includes the section of US 62 at the southern terminus of existing US 641 in the study area.
- Other smaller projects such as rehabilitation of the I-24 weigh stations, KY 139 safety corrections, design of a new connector northeast of Princeton, KY 126 bridge replacement, and pavement rehabilitation along the Ford Parkway.

In addition, no additional funds for US 641 improvements in Lyon and Caldwell Counties have been included in the KYTC's *Kentucky Six-Year Highway Plan FY 2005-2010*.

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III. INITIAL CABINET, PUBLIC AND AGENCY INPUT

Local citizens, public officials and representatives of government resource agencies were given the opportunity to provide input throughout the course of the US 641 Alternatives Study. This chapter describes the first round of public and agency involvement that occurred throughout the study process and describes the comments and input received as a result of those efforts. Activities undertaken as part of the second round of cabinet, public and agency involvement are summarized in **Chapter X**, as they relate to the development of improvement alternatives. In addition to the information

presented in this chapter and **Chapter X**, materials related to the public involvement process are included in the *September, 2003 US 641 Alternatives Study Public Meeting Notebook* and the *August, 2004 US 641 Alternatives Study Public Meeting Notebook*, which are separate documents containing a summary of public meeting events.

To initiate the public involvement effort, a NEPA Public Notice was published in the Federal Register. A copy of the notice is included in **Appendix C**.

Public and Agency Involvement

- Project Team Meetings
- Local Officials/Stakeholders Meetings
- Public Involvement Meetings
- Public Comment Surveys
- Resource Agency Coordination

A. Project Team Meeting (June 23, 2003)

The first Project Team Meeting was conducted on Monday, June 23, 2003, at the KYTC District 1 Office in Paducah, Kentucky. The purpose of the meeting was to discuss the project history and purpose, scope of work and related activities, preliminary data/exhibits, project issues, and public involvement needs and ideas. A copy of the meeting minutes is included in **Appendix C**. Items discussed by those present at the meeting included:

- According to District 1 staff, this project grew out of a proposed bypass of Marion in Crittenden County. During the public involvement phase of that study, the local officials and public expressed that, in lieu of the proposed bypass, there was a greater need for an improved connector highway from I-24 at Eddyville to Marion. This connector was envisioned as a major improvement that would improve access from Eddyville to Henderson. As a result, the KYTC agreed to switch the project development funds for the bypass to project development activities for a proposed new Eddyville-to-Marion connector. The project was funded in two priority sections. According to KYTC traffic forecasts, the improved route from Eddyville to Henderson could potentially divert up to 10,000 trips from the Edward T. Breathitt Parkway.
- The first priority section of the proposed connector from Fredonia to Marion was nearing completion of Phase II Design at the time of the first project team meeting. The new improvement was being designed to follow one of the alignments defined in the *US 641 and KY 91 Corridor Needs Study* completed in December, 1999, and undertaken by the Pennyryle Area Development District (PADD). This first priority section of the roadway would tie into Marion to the south and follow a path east of existing US 641. This northern section of the Eddyville-to-Marion connector is designed as a four-lane, partially controlled access facility with a 60-foot median. On the southern end, this first priority section would terminate northwest of Fredonia near Livingston Creek in Caldwell County, which would become the northern terminus for the Eddyville-to-Fredonia segment being addressed in this US 641 Alternatives Study. In the design of the first priority section, it was assumed that

sections of US 641 to the south of the first priority section may be routed west of, instead of through, Fredonia.

- It was announced that the PADD is in the process of negotiating with the state for the future development of a 500-acre to 800-acre industrial “super-site” known as the Pennyrite WestPark Industrial Park. The primary portion of the land would come from the West Kentucky State Penitentiary Farm operated by the Kentucky Department of Corrections, although some additional land may be acquired from local landowners. The site is near the Fredonia Valley Railroad which interchanges with the Paducah and Louisville Railway. A draft feasibility study has been conducted by PADD and more information would become available in the near future after further meetings with state officials.
- It was agreed that potential impacts on prime farmland in the area would be a key issue to be considered during the study.
- Some preliminary alternatives were discussed, including:
 - Relocating the Ford Parkway (future I-66/I-69) north of Eddyville to eliminate potential impacts on Lake Barkley due to a reconfiguration of the I-24/Ford Parkway interchange, and
 - An eastern bypass of Fredonia, instead of a western bypass, to provide connection to routes coming into Fredonia from the east, especially KY 91.

Preliminary project goals were identified as follows:

- Provide connectivity between I-24 and US 60;
- Provide regional access to the National Truck Network and National Highway System (since Marion is not currently served by a legal route for 102-inch wide trucks);
- Stimulate economic development in the region; and
- Address safety and capacity concerns.

B. Local Officials and Agencies Meetings - Round I (July 29, 2003)

As part of the public involvement portion of this study, two meetings were held on Tuesday, July 29, 2003, with local officials, potential stakeholders, and the media: the first in the morning at the Lyon County Public Library in Eddyville and the second in the afternoon at the Lions Club in Fredonia. The purposes of this meeting were to inform these groups about the project and to gain input about the issues and concerns of the community. Copies of the meeting minutes are included in **Appendix C**.

1. Local Officials and Agencies Meeting - Eddyville

A total of 27 persons attended the local officials meeting in Eddyville to discuss the alternatives study, including project team



US 641 Local Officials & Agencies Meeting (Round I) in Eddyville, KY at the Lyon County Public Library

members. Topics discussed during the meeting included:

- Project history, including the segment from Fredonia to Marion, currently in design;
- Study area, including possible project termini and alternatives;
- Project purpose and goals;
- Scope of work and project schedule; and
- Local issues.

Some of the local issues identified were as follows:

- The project should serve the site of the Pennyriple WestPark Industrial Park on some portion of the West Kentucky State Penitentiary Farm, located southeast of Fredonia.
- At present, the local economy is largely based around tourism, although there are efforts to expand this base into other industries.
- The Mineral Mounds State Park could benefit from improved access to the region, potentially expanding the tourism base in the area.
- The project area includes traditional farmland and there will probably be resistance from some family farm owners, especially those with “family lineage” farms and strong roots to the land in this area.
- The project would depend on the funding allocation in the next Six-Year Highway Plan update, so there is a need to move this project forward as quickly as possible.
- The study should consider both full and partial access control for the new route.
- Other highway projects should be considered, such as widening US 62 to four lanes.
- There may be potential problems with karst around Fredonia.

The group identified the following to be considered as additional project goals:

- Improve access for economic development;
- Increase service to industrial areas; and
- Improve access to recreational areas and lakes.

2. Local Officials and Agencies Meeting - Fredonia

A total of 21 persons attended the local officials meeting in Fredonia to discuss the alternatives study, including project team members. Topics discussed during the meeting included:

- Project history, including the segment from Fredonia to Marion, currently in design;
- Study area and possible project termini;
- Project purpose and goals;



US 641 Local Officials & Agencies Meeting (Round 1) in Fredonia, KY at the Lions Club

- Scope of work and project schedule; and
- Local issues.

Some of the local issues identified were as follows:

- The quarry operation in Fredonia is an important environmental issue.
- There are “wildlife refuge area” signs posted at the Department of Corrections farm complex. This area should be checked for its wildlife status as a potential environmental issue.
- No-passing zones, farm equipment, truck traffic, and quarry traffic make the existing US 641 route dangerous.
- A staff member expressed concern about the safety of the 210 Western Kentucky Correctional Complex employees who drive US 641 to work. The proposed route would provide improved access to the complex and the farm.
- Farmland impacts will be a concern with the public. Splitting of farms should be minimized as part of this project.
- A new route should not come through Fredonia, but should not be located too far outside the city limits due to the costs of additional infrastructure.
- Because escapees are a potential reality, the proposed route should not be located through the middle of the West Kentucky State Penitentiary Farm, but to the east or the west.

The group identified the following to be considered as additional project goals:

- Address the loss of industry due to the lack of oversized truck access and provide economic growth for the region, not only for Crittenden County, but for all of West Kentucky, by providing improved access from the Henderson area to the south;
- Provide a connection to services in Paducah; and
- Serve as an alternative to the future I-66 and I-69 corridors.

C. Public Information Meetings - Round I (September 29th and 30th, 2003)

On Monday, September 29, 2003, and Tuesday, September 30, 2003, Public Involvement Meetings were held at the Lyon County Public Library in Eddyville, Kentucky, and Fredonia Lions Club in Fredonia, Kentucky, respectively. The meetings were held from 5:00 p.m. to 7:00 p.m. The purposes of the meetings were to provide preliminary information to the public on the proposed project and to seek public input on possible issues, impacts, destination points, and alternatives. A total of 68 persons registered their attendance at the two-hour public session in Eddyville, including eight (8) KYTC, ADD, and consultant staff. A total of



Children at the Fredonia Public Meeting taking advantage of coloring books and crayons provided by the KYTC

49 persons registered their attendance in Fredonia, including seven (7) KYTC, ADD, and consultant staff. Minutes for each meeting are included in **Appendix C**.

The public involvement meetings were arranged with several project information stations, and KYTC and consultant staff were available to answer questions and discuss issues. Upon arrival, attendees were given a survey questionnaire, project brochure, and information regarding KYTC roadway projects.

A PowerPoint slide presentation was prepared for the public involvement meeting, providing information on the current US 641 Alternatives Study. The presentation included information such as: the study area; preliminary project goals; traffic, design and environmental considerations; public involvement opportunities; and contact information. This slide show was played continuously during the public involvement session, with a seating area provided nearby for viewers.

A section of the room was set up in a straight line arrangement of project exhibits, including the following titles:

- What is the project study area?
- How many cars and trucks are on area roadways today (2003) and what is the level of service?
- If there are no new road improvements, how many cars and trucks will be on area roadways in 2025 and what is the level of service?
- What are the environmental issues? (presented on aerial photography and topographic mapping)
- Where are the most crashes occurring?
- What is the overall performance of the highways?

Attendees were asked to complete the survey questionnaire prior to leaving the meeting, if possible, or return it to the KYTC at a later date in the postage-paid envelope provided. A table was available to attendees to fill out their survey form and read over the project materials. Refreshments were also provided.

1. General Comments

Attendees were invited to discuss any questions or concerns with KYTC and consultant staff. General comments included the following:

- One couple noted how close their home was located to existing US 641 and was concerned about US 641 being widened instead of relocated/reconstructed.
- A couple of individuals were interested in what the typical section would be for the section from Fredonia to Marion and if the section from Eddyville to Fredonia would be the same.



*US 641 Public Meeting Exhibit Station
at Fredonia's Lions Club on September
30, 2003*

- One individual noted that he drives US 641 most everyday with little to no delay.
- A couple of persons said that the road was unsafe due to speeding trucks and few passing opportunities.
- One couple noted the need for bypassing Fredonia due to an alarming number of accidents within the area, including one fatal accident in which they were involved.
- Other Fredonia residents noted being aware of a high number of accidents within Fredonia.
- A few attendees were interested in knowing if the section from Fredonia to Marion would continue south of the existing southern termini because they are property owners along Old Mexico Road and are concerned about losing all or a portion of their property.
- One individual noted the importance of avoiding crossings with the Paducah and Louisville Railway and drew an example corridor demonstrating how this could be accomplished.

2. Map Drawing Exercise

One table was set up with one environmental footprint map and one project study area map. Markers were provided for attendees to circle areas on the environmental footprint that should be avoided. As shown in **Figure 6**, areas identified included:

- Most areas along US 641 between Eddyville and Fredonia;
- Several cemeteries not shown on the environmental footprint;
- West Kentucky State Penitentiary Farm;
- Prime farmland east and west of KY 373 in Lyon County;
- Land north of the Paducah and Louisville Railway between KY 373 and US 641; and
- Mill Bluff Spring which includes a cave and spring, located just off KY 902 near the Caldwell/Crittenden County Line.



Map drawing station at the Lyon County Public Meeting on September 29, 2003

In addition, markers were provided for attendees to draw potential corridors for a relocated/reconstructed US 641 on the project study area map. As shown in **Figure 7**, general corridors starting at the northern termini included:

- East and west around Fredonia to an eastern terminus at the Ford Parkway between US 62 and the Lyon/Caldwell County Line.
- West around Fredonia to a terminus near the US 641 and US 62 intersection. A couple of alternatives continued on to the Ford Parkway and I-24.
- West around Fredonia to a terminus near the KY 373 intersection with US 62.
- West around Fredonia to a terminus near the KY 810 overpass of I-24.

Figure 6. Public Input: Areas to Avoid

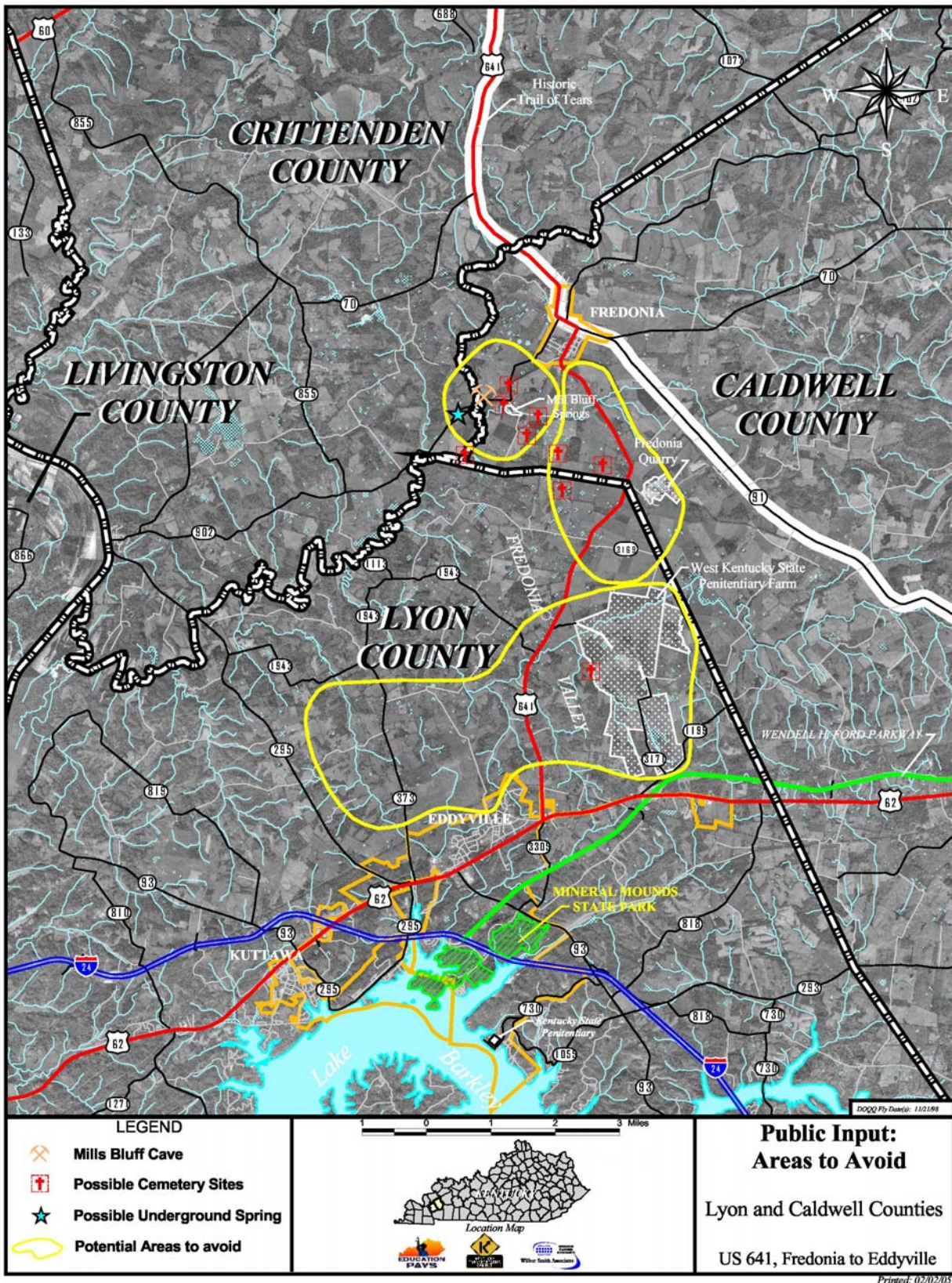
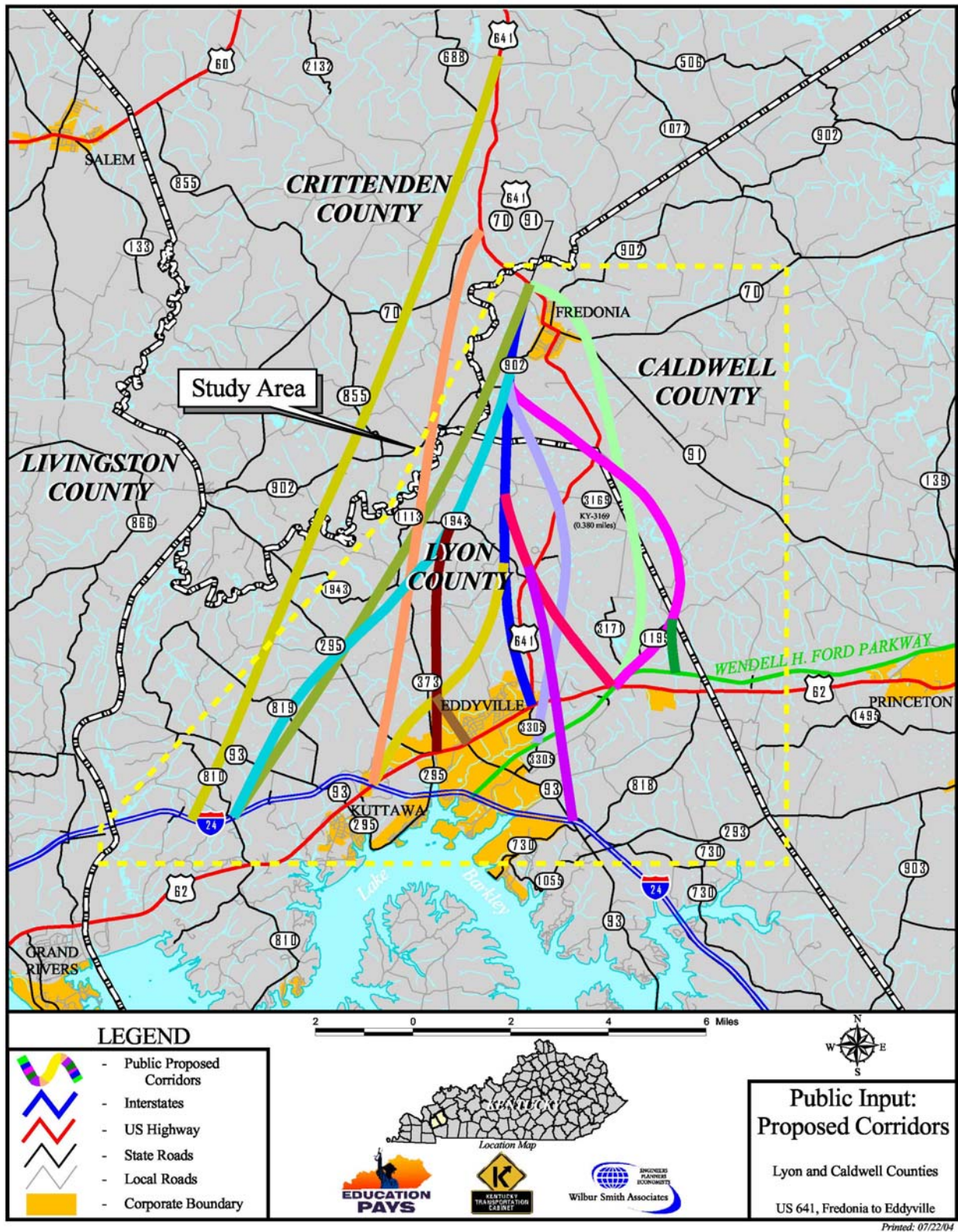


Figure 7. Public Input: Proposed Corridors



3. Public Comment Survey Responses

As part of the public meeting handout, the KYTC supplied a survey form so that citizens of the area could provide input on the project. The KYTC collected 68 surveys from the two public meetings in Fredonia and Eddyville.

Responses to the six questions on the public comment survey are tabulated in **Table 7** and summarized below:

- The majority (51 of 68) of the survey respondents felt that reconstructing or relocating US 641 is needed.
- Thirty respondents (30) indicated that US 641 is dangerous with several narrow and curvy sections. Many stated that the accident rate is high on this road. Twenty-two respondents (22) believe that the large truck traffic is a major problem. It was also suggested that the road should be widened with larger shoulder areas for these large trucks.
- Twenty-nine (29) respondents prefer the proposed US 641 corridor to connect with I-24. Twenty-one (21) respondents want the corridor to connect with the Ford Parkway. Twenty-one (21) respondents said that US 641 should connect with US 62.
- More specifically, eleven (11) respondents preferred a southern terminus near the I-24 weigh station. Another ten (10) respondents preferred a location near the I-24/US 62 interchange. Seven (7) respondents each preferred a southern terminus at the existing US 62/US 641 intersection and the Ford Parkway interchange with US 62. Several respondents provided no response to the question.
- Over half (38 of 68) of the respondents currently use US 641 on a daily basis. Thirteen (13) respondents use the roadway three times a week. Seventeen respondents (17) use US 641 no more than once a week.
- The majority (38) of the respondents felt that personal properties or homes are sensitive areas that should be considered if this new route is constructed. Thirty-one (31) respondents noted prime farmland as sensitive areas, while historic or cultural sites were identified as sensitive by fourteen (14) respondents.

Table 7. Public Survey Response Summary – Round I**1. Do you think reconstruction or relocation of US 641 from Eddyville to Fredonia is needed?**

Yes	No	No response
51	13	4
75%	19%	6%

2. What problems currently exist on US 641 that the proposed project should address?¹

Large truck traffic	Dangerous roads	Narrow road for heavy truck traffic	No problems	Other	No response
22	30	16	7	6	11
24%	33%	17%	8%	7%	12%

3. If US 641 were relocated near Eddyville, to which highway should it connect?²

Wendell H. Ford (WK) Parkway	I-24	US 62	Other	No response
21	29	21	1	1
29%	40%	29%	1%	1%

4. At or near what location should it connect on the southern end (near Eddyville)?

Near weigh station on I-24	Near I-24 / US 62 interchange	Along US 62	US 62 / US 641	US 62 / WF Parkway	Along WF Parkway	Other	No response
11	10	4	7	7	4	8	17
16%	15%	6%	10%	10%	6%	12%	25%

5. How often do you use US 641 now?

Every Day	Three times per week	Once per week	Once per month	Rarely	Never	No response
38	13	8	8	1	0	0
56%	19%	12%	12%	1%	0%	0%

6. Are there sensitive areas that should be considered if this new route is constructed?³

Personal properties or homes	Business/commercial property	Natural areas or habitats	Historic or cultural sites	Prime farmland	Other	No response
38	10	7	14	31	17	18
28%	7%	5%	10%	23%	13%	13%

¹ Several responses included multiple problems² A few responses included two highways³ Most responses included multiple areas

D. Resource Agency Coordination - Round I (November 2003)

Many local, state and federal resource agencies, with diverse areas of public responsibility, were included in this planning process. Input was solicited through written requests on two occasions. For the first round of resource agency coordination, each agency was sent a project brochure detailing the preliminary statement of study purpose and project goals, a project location and environmental features map, year 2003 traffic characteristics, and vehicle crash information. For the second round, each resource agency was sent a preferred alternative corridors map in addition to the identical project brochure that was sent during the first round. This section describes the input received from these organizations after the initial contact. The remainder of recipients did not provide a response. Response letters from the various resource agencies are located in **Appendix D** and are summarized below.

Resource Agencies

- City Agencies
- Local Interest Groups
- KYTC Division Offices
- Other State Agencies
- Federal Agencies

The following 19 agencies responded by offering comments or concerns regarding the project:

- Crittenden County Economic Development Corporation (CCEDC): The CCEDC strongly endorsed the proposed route and saw no issues or concerns that would adversely affect the project. The CCEDC felt it was critical that the roadway be in close proximity to the forthcoming 5-county endorsed Pennyrile WestPark Industrial Park adjacent to the West Kentucky State Penitentiary Farm. Attracting large manufacturing companies will hinge greatly on whether there is a 4-lane highway that brings industrial transportation to and from the park.
- J. R. Gray, State Representative: Rep. Gray saw no particular concerns with the proposed highway in and around Fredonia. However, he felt the highway should be located close to the Pennyrile WestPark Industrial Park in order to attract potential industries. Easy access should be provided to Interstate 24 and/or the Ford Parkway.
- Kentucky Cabinet for Workforce Development: An improved roadway would promote industrial development, residential development, and promote growth of educational facilities. The Cabinet has no objection to the project, other than financial concerns due to the economic downturn and geographical considerations.
- Kentucky Department of Corrections: The preference of the Department is that the new highway should not come any closer to the institution than the present situation to provide safety for the public.
- Kentucky Department of Fish and Wildlife Resources (KDFWR): The Kentucky Fish and Wildlife Information System indicates that the federally endangered Indiana bat and Gray bat are known to occur in the Fredonia 7.5 minute USGS quadrangle. Known to exist in the Eddyville quadrangle are the bald eagle and pink mucket. In quadrangles in which gray bats are known to occur, cave entrances should be surveyed for potential use. In quadrangles in which Indiana bats are known to occur, any wooded areas that may be impacted by the proposed project should be examined for potential Indiana bat habitat. Other state threatened or endangered species known to exist in the area include the spottail shiner, great blue heron, rabbitsfoot, barking treefrog, chain pickerel, sedge wren, chestnut lamprey, black buffalo, pocketbook, and osprey.

Recommendations for portions of the project that might cross intermittent or perennial streams include: development/excavation during a low flow period; proper placement of erosion control structures; replanting of disturbed areas after construction; return of all disturbed instream habitat to its original condition; preservation of any tree canopy overhanging the stream; and return of all rights-of-way to original elevation.

- Kentucky Department for Surface Mining Reclamation and Enforcement, Natural Resources and Environmental Protection Cabinet: The department has identified one active rock quarry located just east of US 641 between Eddyville and Fredonia on the Lyon and Caldwell county line. This quarry is permitted under the name of Martin Marietta Materials, Inc (Permit No. 017-9403). The local address is 297 Fredonia Quarry Road, Fredonia, KY 42411. The Latitude is 37°10'32", and the Longitude is 88°01'48" on the Fredonia quadrangle.
- Kentucky Division of Aeronautics: The proposed project should not affect any public Kentucky airport.
- Kentucky Division for Air Quality, Natural Resources and Environmental Protection Cabinet: Kentucky Division for Air Quality Regulations 401 KAR 63:010 (Fugitive Emissions) and 401 KAR 63:005 (Open Burning) apply to the proposed project. The project must also meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of United States Code. Every effort should be made to maintain compliance with these regulations and requirements. The Division also suggests an investigation into compliance with applicable regulations in the local governments.
- Kentucky Division of Materials, Geotechnical Branch: The project is located within the Eddyville and Fredonia Geologic Quadrangle, underlain with Quaternary Alluvium. Bedrock includes the Ste. Genevieve Limestone, St. Louis Limestone, and Salem Limestone. A geologic map was attached for reference. The geotechnical concerns of the study area are as follows. Due to faulting in the vicinity of Eddyville, any bedrock in the cut sections will likely contain fractures and joints causing cut slopes in rock to be flatter than normal. The branch recommends avoiding mapped springs and investigating unmapped springs before final alternatives are chosen. It is also preferred to avoid sinkholes in the area. On the Fredonia Quadrangle, a structural low exists and contains many sinkholes. This area should be avoided.
- Kentucky Transportation Cabinet, Division of Traffic, Permits Branch: This project should provide for a partially controlled access facility, with access control fencing and all possible access points set on the plans in accordance with 603 KAR 5:120. The design speed should be the same as the anticipated posted speed when the project is completed. The Permits Branch should be notified if the proposed route is to be placed on the National Highway System.
- Kentucky Division of Waste Management: The Division requests the use of Pulverized Glass Aggregate (PGA) in roadbed construction, where feasible. The Division provided a list of superfund sites by county and underground storage tank sites in enforcement.
- Kentucky Geologic Survey, University of Kentucky: The Kentucky Geologic Survey noted that the proposed project is in the Mississippian Plateau (Pennyroyal or Pennyrile) Physiographic Regions, which is underlain by limestone. The project

would encounter karst features in the limestone such as sinkholes and caves. The project would not encounter any pre- or post-landslide hazard. It would encounter unconsolidated sediments, such as clay, silt, sand, and gravel, and chert rubble in the streams. Resource conflicts could be encountered such as prior ownership of property for quarrying or mining. The project would encounter the St. Louis Limestone and Fredonia Limestone Member of the Ste. Genevieve Limestone. The St. Louis might contain expansive aggregate layers that would not be suitable for construction stone. The project area would encounter faulted areas. Finally, there is a low potential for liquefaction or slope failure in the unconsolidated sediments at or near streams by bedrock ground motion.

- United States Department of Agriculture, Natural Resources Conservation Service (NRCS): NRCS is concerned with potential impacts that the proposed highway project might have upon prime farmland soils and additional farmlands of statewide importance. Form NRCS-CPA-106 must be submitted to NRCS if federal dollars are to be used to convert important farmlands from agricultural uses to non-agricultural uses.
- United States Department of the Army, Nashville District, Corps of Engineers: Based on a review of the location map, the proposed project would not affect lands owned or operated by the Corps of Engineers. After reviewing the basic plans, the proposal may require the replacement, widening, and/or construction of bridges and culverts. Depending on the plans, the work may meet the criteria for approval by Nationwide Permit #14 for the deposit of fill material associated with road crossings. Some level of Department of the Army permitting would probably be required for the project. Wetland and stream impacts should be avoided, if possible.
- United States Department of the Interior, Fish and Wildlife Service: Excessive sedimentation during daily construction can be prevented through application of Best Management Practices (BMPs). It was recommended to consider having an inspector on-site during all construction activities to ensure that work areas are stabilized on a daily or regular basis.

Within the proposed project area, the endangered Indiana bat and gray bat may exist. It was recommended that the project area be surveyed for caves, rock shelters, and underground mines to identify and avoid impacts to potential habitats for the Indiana bat. Also, it was recommended that tree removal should be completed during the appropriate season to avoid impacts to summer roosting Indiana bats and swarming behavior.

- Kentucky Transportation Cabinet, Division of Environmental Analysis: Based on the planning study data, the following comments were provided: no adverse impacts anticipated relative to air quality and noise; given the potential for long channel changes, stream impacts should be avoided or minimized; if unavoidable, mitigation and permitting may be required; ecological, archaeological and cultural historic impacts will have to be assessed with a baseline study; and specific details concerning underground storage tanks and hazardous materials would need to be obtained once alignments are proposed.
- Kentucky State Police: Forwarded letter to the Mayfield Post.
- Kentucky State Nature Preserve Commission: No KSNPC-listed species or unique natural areas were anticipated in the project area. However, the following issues were noted: 1) general avoidance of wetland areas, 2) the area is known to be

inhabited by gray bats, and 3) consideration should be made to minimizing further fragmentation of forested tracts.

- Department of Military Affairs: The proposed project would not impact the department in anyway.

IV. ENVIRONMENTAL JUSTICE

This chapter provides a summary of the *Environmental Justice and Community Impact Report* completed February 2004 by the Pennyriple Area Development District as part of this planning study. This report assesses potential environmental justice concerns related to the proposed project. The entire document is included in **Appendix E**.

According to the 2000 Census, there are six (6) Census Tracts and thirteen (13) Block Groups that encompass the US 641 study area in Lyon and Caldwell Counties. Exhibits showing the location and data for the Census Tracts and Block Groups are included in **Appendix E**.

Key issues are discussed in the following sections. To address some issues in more detail, additional analysis is presented beyond the findings discussed in the report, and is based on a review of the data included in that report.

A. Minority Populations

- Black Population
 - The Lyon County population is 6.7% Black, as compared to the national average of 12.3% and Kentucky state average of 7.3%.
 - The Census Tract 9601, Block Group 001 population is 15.3% Black, which is higher than the national and state averages. This area lies just south of US 62 and is therefore south of the study area through which some or all of the alternative US 641 corridors would pass.
 - The Census Tract 9601, Block Group 002 population is 11.5% Black, which is higher than the state average. This is the area through which some or all of the US 641 alternative corridors pass.
 - The averages in Tract 9601, Block Groups 001 and 002 appear to be elevated because they include the population of the West Kentucky State Penitentiary Farm located in this area.
 - Each of the other Census Tracts and Block Groups show no significant difference in population composition according to race within the area where the study corridors are located.
 - The Caldwell County population is 4.8% Black, as compared to the national average of 12.3% and Kentucky state average of 7.3%.
 - In the study area, the Census Tract 9801 population is 0.7% Black, which falls well below the national and state averages.
 - In the study area, the Census Tract 9802 population is 9.9% Black, which falls below the national average but is greater than the state average.
 - However, the only Block Groups in Tract 9802 that could be immediately affected by the proposed project, Block Groups 004 and 005, have a Black population of 4.1% and 0.2%, respectively, both well below both the national and state averages.
 - Each of the other Census Tracts and Block Groups show no significant difference in population composition according to race within the area where the study corridors are located.

- American Indian
 - The Lyon County population is 0.3% American Indian, as compared to the national average of 0.9% and Kentucky state average of 0.2%.
 - In the study area in Lyon County, the Census Tract 9601 population is 0.3% American Indian, which is below the national average, but higher than the state average.
 - The largest concentrations of the American Indian population in Lyon County, Census Tract 9601, are in Block Groups 002 and 003, both in the immediate study area, at 0.3% and 0.6%, respectively. Both exceed the state average.
 - Also in Census Tract 9601, the Block Group 004 population is 1.0% American Indian, just higher than the national average. However, this area lies south of I-24 west of Eddyville and would not be affected by the proposed project.
 - Each of the other Census Tracts and Block Groups show no significant difference in population composition according to race within the area where the study corridors are located.
 - The Caldwell County population is 0.1% American Indian, as compared to the national average of 0.9% and Kentucky state average of 0.2%.
 - In the study area in Caldwell County, the Census Tract 9801 and 9802 populations are 0.1% and 0.2% American Indian, which is below the national average and below or equal to the state average. The population in the block groups in those Census Tracts range from 0.0% to 0.2%, also below the national and below or equal to state averages.
 - Each of the other Census Tracts and Block Groups show no significant difference in population composition according to race within the area where the study corridors are located.
- Asian, Hispanics, and Other
 - The Lyon County population is 0.7% Hispanic, as compared to the national average of 12.5% and Kentucky state average of 1.5%. For Asian and other minorities, the populations are 0.2% and 1.0%, respectively; as compared to the national average of 3.6% and 8.0%, respectively, and Kentucky state average of 0.7% and 1.6%, respectively.
 - The Caldwell County population is 0.6% Hispanic, as compared to the national average of 12.5% and Kentucky state average of 1.5%. For Asian and other minorities, the populations are 0.2% and 1.0%, respectively.
 - The Asian, Hispanic, and other minority populations in both Lyon County and Caldwell County and in all Census Tracts and Block Groups are less than the national and statewide averages.

Members of the project area community focus group were consulted to confirm the findings presented above. They did not recognize any minority concentrations that seemed higher than average. While it appears that this project would have little impact on minority communities in Lyon and Caldwell Counties, attention should be given to consider such populations during future phases of this project.

B. Low Income Populations

- The poverty level (% of total population in poverty) in Lyon County is 10.3%, compared to the national average of 12.0% and Kentucky state average of 15.4%.
 - In Census Tract 9601, Block Group 003 has a poverty level of 12.9% and Block Group 005 has a poverty level of 12.9%, both greater than the national average but less than the state average.
 - These two Block Groups appear to be slightly above the national and county averages primarily due to a concentration of trailer parks in the Census block. This concentration of trailer parks will not be directly affected by the proposed project.
- The poverty level in Caldwell County is 15.6%, which is much greater than the national average of 12.0% and slightly higher than the Kentucky statewide average of 15.4%.
 - Census Tract 9802, located in the study area, has a high poverty level of 21.2%. In that Census Tract, Block Groups 003, 004, and 005 have poverty levels of 18.8%, 34.0%, and 20.9%, respectively.
 - In the study area in Caldwell County, the poverty level of Block Group 002 of Census Tract 9801 (12.9%) was higher than the national average, but lower than the state and county averages.

Members of the project area community focus group were consulted to confirm the conclusions about the study area. They did not recognize any significant concentrations of the population below the poverty level that would be directly affected by the proposed project. However, block groups within census tract 9802 should be given consideration in future phases of this project.

C. Age of Residents

- The percentage of the population over age 65 in both Lyon County (16.8%) and Caldwell County (18.0%) exceed the national average of 12.4% and Kentucky statewide average of 12.5%.
 - Some Block Groups in the study area have a slightly higher percentage of people aged 18 to 64 and a consistently higher percentage of the population over age 65.
 - This is consistent with percentages of the population for each county because of the increased number of retirees who choose to live in the Lakes area.

Members of the project area community focus group were consulted to confirm the conclusions about the study area. They did not recognize any significant concentrations of individuals of a particular age group. It appears that this project would have little impact on populations of a particular age group in Lyon and Caldwell Counties. While the aged population is not a measure included in typical environmental justice analysis, such populations should be given consideration in future phases of this project.

D. Other Populations

There are no populations identified by the community focus groups beyond the Census data obtained that would potentially be impacted by the US 641 project. This includes

the Amish or other religious communities, as well as any other issues of importance to the project area.

E. Study Findings

It appears that the US 641 relocation/reconstruction will have little or no impact on minority communities in Lyon and Caldwell Counties. Block groups with concentrations of low income residents should be given consideration as this study moves forward.

V. PROJECT PURPOSE AND NEED

As a result of the planning process and public involvement efforts, project goals were identified for the proposed reconstruction of US 641, based on a compilation of input from highway officials, local government agencies, interest groups, members of the general public, and the project team. These goals address accessibility, economic benefit, connectivity, and safety and operational conditions of US 641. These goals have been used in preparing the Purpose and Need for the proposed project during future project development efforts, including design and environmental activities.

Following is a brief discussion of the Purpose and Need for the proposed US 641 project:

- **The proposed project is needed to provide improved regional access along a reconstructed US 641 or an alternate route that will:**

- **Allow the designation of the route for the legal operation of 102-inch wide trucks between Eddyville and Fredonia.**

Lyon and Caldwell Counties are served by two designated National Truck Network (NN) roadways: I-24 and the Ford Parkway. The NN is a designated system which allows trucks with increased dimensions, including 102-inch wide trucks. In Kentucky, increased dimension trucks are allowed five (5) driving miles from a NN roadway as long as they are on state-maintained facilities and one (1) mile on non-state maintained publicly-owned, public use highways. Fredonia, in Caldwell County, and Marion, in Crittenden County, both fall geographically outside these legal limits restricting the ability for local businesses to ship using 102-inch wide trucks.

Limited truck access to Marion and surrounding areas is an issue for site development and the potential for bringing in new local jobs. The potential to improve the economic vitality of Lyon, Caldwell, and Crittenden Counties and surrounding counties would be greater with improved truck access to and from the area. Many local officials and community members have expressed strong support for the project. The reconstruction of US 641 between Fredonia and Marion has recently completed the design stage. If and when constructed, the section from Eddyville to Fredonia would become increasingly important to complete the connection to existing NN roadways.

- **Provide improved access to the National Truck Network and National Highway System to support economic development initiatives in the region.**

I-24 and the Ford Parkway are the only National Highway System (NHS) routes within Lyon and Caldwell Counties. Developed in response to requirements included in the Intermodal Surface Transportation Efficiency Act (ISTEA), the NHS includes designated roadways important to the nation's economy, defense, and mobility.

Designation of US 641 as a NN and/or NHS roadway is considered an important step in boosting economic development within the region. Of particular emphasis, is providing connection to the Pennyryle WestPark Industrial Park, proposed north of the West Kentucky State Penitentiary Farm. Consideration could be given to providing a fully-controlled access roadway to the Park entrance, discussed in more detail in the next chapter.

- **Provide improved access from north of and in the vicinity of Eddyville to regional recreational and tourist areas, including Lake Barkley and Kentucky Lake.**

Kentucky Lake and Lake Barkley were created in 1938 and 1966, respectively. Along with the Land Between the Lakes National Recreational Area, the region has grown to

be an important tourist destination. Access to these recreational areas is provided by I-24, the Ford Parkway, the Julian M. Carroll Parkway, US 68, US 641, and other state and local roads. Of these, US 641 provides an important connection for those originating from the north including areas of Illinois and Indiana.

- **Providing a direct connection to either I-24 or the Ford Parkway through an extension of the programmed US 641 project between Fredonia and Marion is needed to afford the opportunity for an improved corridor from I-24 near Eddyville to US 60 near Henderson.**

Currently, the combination of US 641 between Eddyville and Marion and US 60 between Marion and Henderson serve as an alternate route to the Ford Parkway and Edward T. Breathitt Parkway. In the case of closure or delay on either parkway, additional strain may be placed on the US 641 corridor. Increased capacity will help the roadway handle temporary spikes in traffic and reduce related traffic and congestion concerns.

- **Improved roadway geometrics would help alleviate public concerns about safety and level of service along the existing US 641 corridor.**

Local residents have expressed concerns about safety and level of service, particularly as it relates to truck traffic along US 641. When asked what problems currently exist along US 641, 33 percent of those surveyed responded that US 641 was a dangerous road. Twenty-four percent responded that they were concerned with the large number of trucks along US 641, and another 17 percent felt the roadway was too narrow to handle large truck traffic. The public also noted specific accident history along US 641 in Fredonia, which is confirmed by the crash analysis conducted as part of this study.

Level of service along US 641 was calculated to be LOS D for both existing (2003) and future (2025) years, except for a small section passing through Fredonia. In the future year, this section of US 641 is expected to be LOS E. One contributing factor to poor level of service along the roadway is the limited passing sight distance along the route. The ability to pass can be further hindered with the presence of high truck traffic traveling through the area or to and from the quarry, for example.

As proposed, the reconstructed US 641 would be a divided, four-lane facility, eliminating passing concerns. Also, the corridor would bypass Fredonia and the identified high crash spot locations.

VI. ALTERNATIVES EVALUATION PROCESS

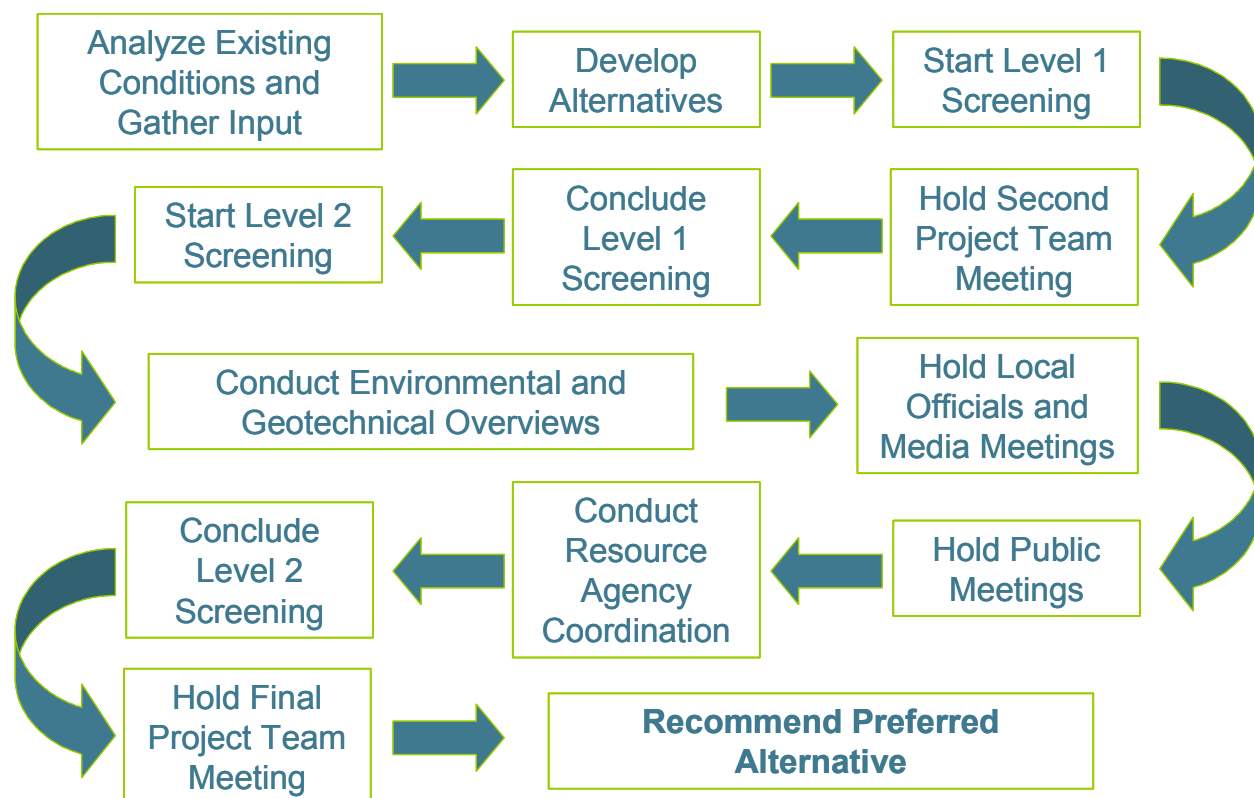
Following the existing conditions review and first round of public involvement, potential improvement alternatives were developed for the possible reconstruction of US 641. These were based on an analysis of existing conditions and on input received from early public involvement.

A. Evaluation Process

A tiered evaluation process was undertaken to determine a recommended alternative(s). Initially, 12 alternatives were developed, and these were evaluated as part of a Level 1 Screening process. Findings were presented to the project team (see **Chapter VII**) and minor adjustments were recommended. In that meeting, the project team also added two (2) new alternatives, for a total of 14 alternatives, and recommended that six (6) of the 14 alternatives be eliminated from further evaluation.

As part of the Level 2 Screening process, environmental and geotechnical assessments were conducted. Local citizens, public officials and representatives of government resource agencies were then given the opportunity to react to the proposed improvement alternatives through a second round of public involvement activities. Results of the Level 2 Screening were summarized and presented to the project team for discussion (see **Chapter X**). The result of this meeting was the recommendation of a preferred build alternative. **Figure 8** depicts the alternatives development and evaluation process, which is outlined in more detail in the following chapters.

Figure 8. Evaluation Process

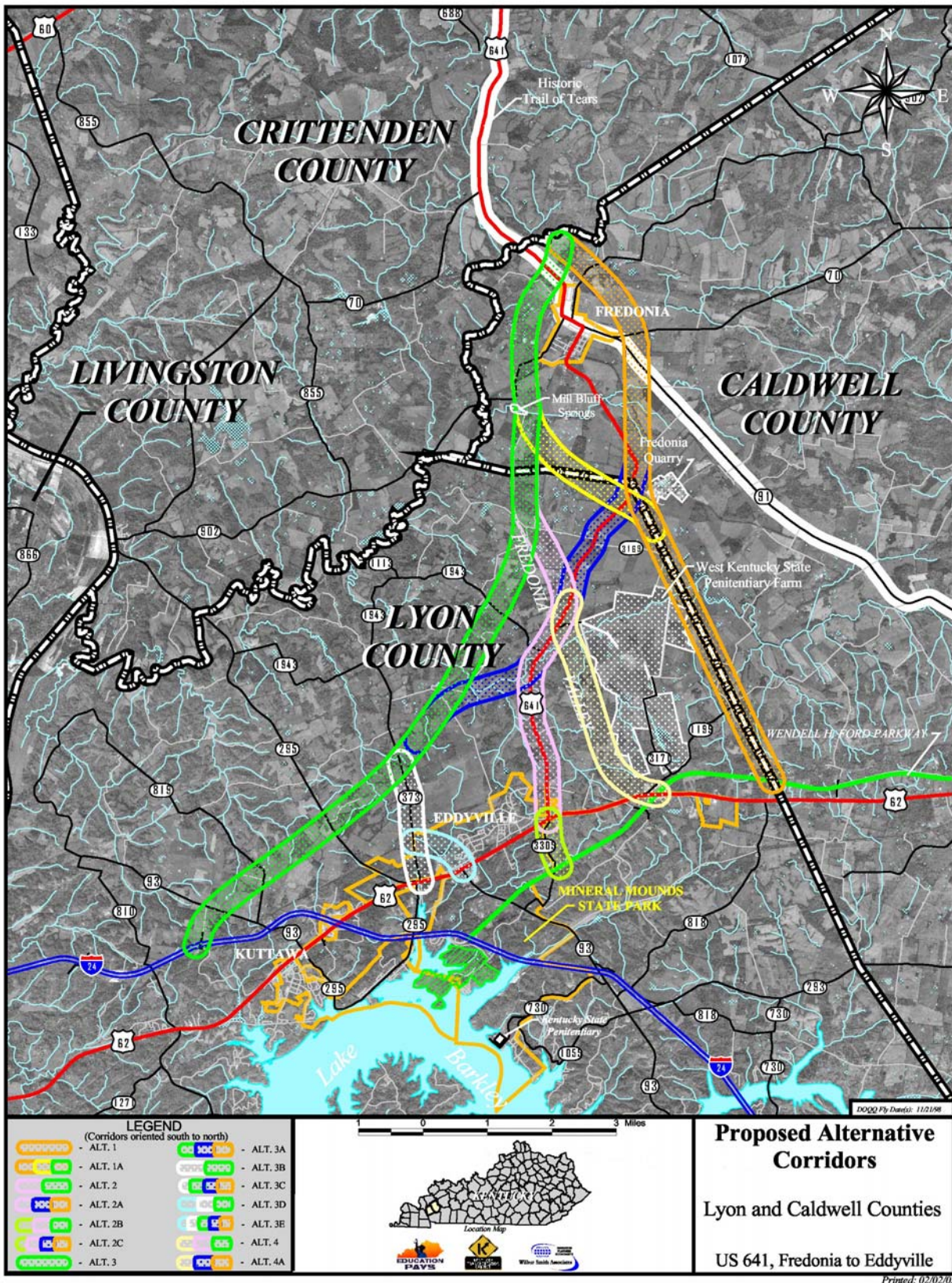


B. Proposed Improvement Alternatives

As presented in **Figure 9**, 14 alternatives were developed for the possible reconstruction of US 641. The first 12 alternatives were developed initially, while the latter two (2) were recommended at the project team meeting, as described in **Chapter VII**. The alternatives are described as follows:

- **Alternative 1:** The southern terminus would be a new interchange proposed along the Ford Parkway at the Caldwell/Lyon County Line. The corridor would follow the county line to an intersection with existing US 641. The corridor would then turn due north. At KY 70, the corridor would curve to the northwest around Fredonia to an intersection with the proposed US 641 Priority Section 1 north of existing US 641.
- **Alternative 1A:** The southern terminus would be a new interchange proposed along the Ford Parkway at the Caldwell/Lyon County Line. The corridor would follow the county line to the Fredonia Quarry and then proceed northwest through the northeast corner of Lyon County and into Caldwell County. The corridor would continue north on the western side of Fredonia to a terminus with US 641 northwest of Fredonia.
- **Alternative 2:** Starting at the existing US 641 and US 62 intersection and proceeding north along existing US 641, Alternative 2 would follow US 641 to just north of the entrance for the West Kentucky State Penitentiary Farm. The corridor would continue northwest to a point just south of the Caldwell/Lyon County Line. The corridor would proceed north crossing the Caldwell/Lyon County Line and continue north on the western side of Fredonia to a terminus with US 641 northwest of Fredonia.
- **Alternative 2A:** Starting at the existing US 641 and US 62 intersection and proceeding north along existing US 641, Alternative 2A would follow US 641 to the Fredonia Quarry. The corridor would then turn due north. At KY 70, the corridor would curve to the northwest around Fredonia to an intersection with the proposed US 641 Priority Section 1 north of existing US 641.
- **Alternative 2B:** Alternative 2B would have a southern terminus at a new interchange along the Ford Parkway near MP 1.7. The corridor would generally follow KY 3305 toward US 62, intersecting US 62 at US 641. Alternative 2B would then follow the same corridor as Alternative 2.
- **Alternative 2C:** Alternative 2C would have a southern terminus at a new interchange along the Ford Parkway near MP 1.7. The corridor would generally follow KY 3305 toward US 62, intersecting US 62 at US 641. Alternative 2C would then follow the same corridor as Alternative 2A.
- **Alternative 3:** Alternative 3 would have a southern terminus along I-24 between the Paducah and Louisville railroad crossing and KY 810. The corridor would continue northeast intersecting KY 93, KY 819, KY 295 and KY 373. The corridor will continue in a northeast direction. The corridor would cross KY 1943 turning due north and intersecting Alternative 2 just south of the Caldwell/Lyon County Line. Similar to Alternative 2, the corridor would proceed north crossing the Caldwell/Lyon County Line and continue north on the western side of Fredonia to a terminus with US 641 northwest of Fredonia.

Figure 9. Proposed Improvement Alternatives



- Alternative 3A: Alternative 3A would have a southern terminus along I-24 between the Paducah and Louisville crossing and KY 810. The corridor would continue northeast intersecting KY 93, KY 819, KY 295 and KY 373. The corridor then turns more to the east and intersects existing US 641 just south of KY 1943. The corridor then follows the same path as Alternative 2A. The corridor would follow US 641 to the Fredonia Quarry. The corridor would then turn due north. At KY 70, the corridor would curve to the northwest around Fredonia to an intersection with the proposed US 641 Priority Section 1 north of existing US 641.
- Alternative 3B: Alternative 3B would have a southern terminus along US 62 at KY 373. The corridor would follow along KY 373 for approximately two (2) miles. The corridor would then head in a northeast direction. The corridor would cross KY 1943 turning due north and intersecting Alternative 2 just south of the Caldwell/Lyon County Line. Similar to Alternative 2, the corridor would proceed north crossing the Caldwell/Lyon County Line and continue north on the western side of Fredonia to a terminus with US 641 northwest of Fredonia.
- Alternative 3C: Alternative 3C would have a southern terminus along US 62 at KY 373. The corridor would follow along KY 373 for approximately two (2) miles. The corridor would then turn more to the east and intersect existing US 641 just south of KY 1943. The corridor would follow the same path as Alternative 2A. The corridor would follow US 641 to the Fredonia Quarry. The corridor would then turn due north. At KY 70 the corridor would curve to the northwest around Fredonia to an intersection with the proposed US 641 Priority Section 1 north of the existing US 641.
- Alternative 3D: Alternative 3D would have a southern terminus along US 62 at KY 93. The corridor would travel northwest intersecting KY 373 near the Paducah and Louisville Railroad crossing. From there, Alternative 3D would follow the same path as Alternative 3B.
- Alternative 3E: Alternative 3E would have a southern terminus along US 62 at KY 93. The corridor would travel northwest intersecting KY 373 near the Paducah and Louisville Railroad crossing. From there Alternative 3E would follow the same path as Alternative 3C.
- Alternative 4: Alternative 4 would have a southern terminus at the US 62 and Ford Parkway interchange. US 62 would be reconfigured to make US 641 the primary direction. The corridor would follow along the western edge of the West Kentucky State Penitentiary Farm. The corridor would cross existing US 641 at the West Kentucky State Penitentiary Farm entrance. The corridor would continue northwest to a point just south of the Caldwell/Lyon County Line. The corridor would proceed north crossing the Caldwell/Lyon County Line and continue north on the western side of Fredonia to a terminus with US 641 northwest of Fredonia.
- Alternative 4A: Alternative 4A would have a southern terminus at the US 62 and Ford Parkway interchange. US 62 would be reconfigured to make US 641 the primary direction. The corridor would follow along the western edge of the West Kentucky State Penitentiary Farm. The corridor would merge into existing US 641 at the West Kentucky State Penitentiary Farm entrance. The corridor would then follow the same path as Alternatives 2A and 3A. The corridor would follow US 641 to the Fredonia Quarry. The corridor would then turn due north. At KY 70, the corridor would curve to the northwest around Fredonia to an intersection with the proposed US 641 Priority Section 1 north of the existing US 641.

VII. LEVEL 1 SCREENING

The first step in evaluating the proposed alternatives, including the no build alternative, was to conduct a Level 1 Screening. A Draft Level 1 Screening was developed prior to the Second Project Team Meeting and later finalized based on the discussions from this March 4, 2004 meeting.

A. Screening Process

The No Build Alternative and each of the 12 build alternatives were evaluated as part of the Level 1 Screening. Criteria were developed, giving consideration to the project purpose and need (based on preliminary project goals and objectives), potential environmental and community impacts, planning level cost estimates, public input, and transportation and traffic issues. Alternatives were then given a High, Medium-High, Medium, Low-Medium, and Low rating based on how well they met these criteria. A draft version of the Level 1 Screening results was presented to the project team for discussion as described in the following section.

B. Second Project Team Meeting (March 4, 2004)

The Second Project Team Meeting was conducted on Thursday, March 4, 2004 at the KYTC District 1 Office in Paducah, Kentucky. The purpose of the meeting was to review early public and resource agency input received to date, discuss the proposed alternatives and Level 1 Screening, and plan future project activities including the second round meetings with local officials and the public. A copy of the meeting minutes is included in **Appendix C**.

Items discussed by those present at the meeting included the following:

- The Pennyrile WestPark Industrial Park site is supported by the Governor's Office and is expected to continue.
- The Trail of Tears had not been a concern on the northern section of US 641 currently in design and is not anticipated to be on the section under study.
- Based on the evaluation, the corridors interchanging with I-24 scored lower than several of the others. There were concerns that this corridor, which was the most favored terminus from the public survey summary, would be eliminated from consideration too quickly. To address this concern, it was agreed that corridors with a rating of medium would also be carried forward to a Level 2 Screening.
- Concern was expressed over the width of the corridor along existing US 641. It was felt that 1000' on either side would not be adequate if a preferred alignment were to be a reasonable distance behind existing residences along US 641.
- Two new corridors were recommended: (1) rebuilding the interchange at Exit 4 and (2) a new corridor parallel and immediately adjacent to the West Kentucky State Penitentiary Farm from the Exit 4 interchange to a point near the existing farm entrance. The corridor then would follow existing alignments east or west of Fredonia. The interchange would be reconfigured to make US 641 to the north the predominant movement and would have US 62 intersect US 641 in a "T" configuration. The project team agreed that this alternative should be added and carried forward.

- It was recommended by one (1) attendee that a fully-controlled facility to the Pennyrile WestPark Industrial Park from the south be considered. North of the park would be a partially controlled facility similar to the Priority 1 Section north of Fredonia.
- It was recommended that the rating of Alternative Corridors 3 and 3A be reconsidered. In particular, the project team felt that the community and environmental impacts, compatibility with project goals, and public support for the corridor had not been adequately evaluated for these two alternatives. After some discussion, it was agreed that this was the case and that the consultant would modify the evaluation process for these corridors based on the input from the project team.
- In discussing which corridors would not be carried forward, the Chief District Engineer recommended that Alternative Corridors 2B and 2C also be reconsidered and revised. After some discussion, it was decided by the project team that (1) the section of these alternatives from the Wendell H. Ford Western Parkway to US 62 had potentially high negative community and environmental impacts and (2) these two alternatives should be removed from further consideration.
- In summary, based on the discussion at the meeting, the project team decided that:
 - Alternatives 2B, 2C, 3B, 3C, 3D, and 3E should not be carried forward;
 - Alternatives 1, 1A, 2, 2A, 3, and 3A should be carried forward; and
 - Two (2) new alternative corridors, starting at Exit 4 and paralleling the West Kentucky State Penitentiary Farm should be developed and carried forward.

C. Refined Level 1 Screening

As recommended by the project team, two (2) additional alternative corridors were added, for a total of 14 “build” alternatives. With additional alternatives and based on recommendations received at the project team meeting, the initial screening was refined. For the recommendation column, a rating of low, low-medium, medium, medium-high, or high was assigned to each proposed corridor based on how well it met the established screening criteria. The Level 1 Screening is summarized in **Table 8**. More detailed tables and explanation are provided in **Appendix F**.

Based on the results of the Level 1 Screening and the recommendation of the project team, Alternatives 1, 1A, 2, 2A, 3, 3A, 4, and 4A were carried forward for the next round of public involvement.

The other alternatives were eliminated for the following reasons:

- Alternative 2B: High negative community and environmental impacts including relocations; close proximity of a new interchange to Exit 1 and Exit 4 along the Ford Parkway; and low public support.
- Alternative 2C: High negative community and environmental impacts including relocations; close proximity of a new interchange to Exit 1 and Exit 4 along the Ford Parkway; and low public support.

Table 8. Level 1 Screening Summary

Alternative	Transportation/Traffic					
	Length of Corridor (miles)	Travel Time (minutes)	Interchange Suitability	Project Phasing Suitability	Safety Concerns	Number of Intersecting US and KY Routes
No Build	9.8	11.4	--	--	High	5
1	9.3	9.3	1.9 miles to US 62 interchange	High	Low	7
1A	9.8	9.8	1.9 miles to US 62 interchange	High	Low	5
2	9.4	9.4	--	Medium	Medium	5
2A	9.9	9.9	--	High	Medium	7
2B	10.1	10.1	1.7 miles to I-24 interchange	Medium	Low	7
2C	10.6	10.6	1.7 miles to I-24 interchange	High	Low	9
3	13.0	13.0	1.4 miles to weigh station	Low	Low	8
3A	14.4	14.4	1.4 miles to weigh station	Medium	Low	11
3B	10.6	10.6	--	Low	Medium	5
3C	12.0	12.0	--	Medium	Medium	8
3D	10.9	10.9	--	Low	Medium	5
3E	12.3	12.3	--	Medium	Medium	8
4	9.4	9.4	At existing interchange	Medium	Low	5
4A	9.9	9.9	At existing interchange	High	Low	7



Most favorable alternate in addressing the particular criterion.

Least favorable alternate in addressing the particular criterion.

Table 8. Level 1 Screening Summary (cont.)

Alternative	Cost	Environmental Impacts	Compatibility with Preliminary Project Goals	Public Comments Support Alternative	Recommendation
No Build	\$0	Low	Low	Low	Medium
1	\$89,400,000	Low	Medium	Medium	High
1A	\$93,400,000	Low	Medium	Medium	Medium-High
2	\$85,720,000	Medium	High	Medium	High
2A	\$91,704,000	Medium	High	Medium	High
2B	\$108,496,000	High	High	Low	Low-Medium
2C	\$114,672,000	High	High	Low	Low-Medium
3	\$119,000,000	Medium	Low	Medium	Low-Medium
3A	\$141,720,000	Low	Medium	Medium	Medium
3B	\$94,584,000	Medium	Medium	Low	Low
3C	\$110,520,000	Low	Low	Medium	Low
3D	\$97,176,000	High	Low	Low	Low
3E	\$113,208,000	High	Low	Low	Low
4	\$85,200,000	Medium	High	Medium	Medium-High
4A	\$95,536,000	Low	High	Medium	High

Most favorable alternate in addressing the particular criterion.

Least favorable alternate in addressing the particular criterion.

- Alternative 3B: Does not adequately meet project purpose to provide improved regional truck access to the NHS or NN since it does not connect directly to either I-24 or the Ford Parkway; low public support; less access to industrial development; less effective as an alternate truck route for US 641; high impact to prime farmlands; and less access to area roadways.
- Alternative 3C: Does not adequately meet project purpose to provide improved regional truck access to the NHS or NN since it does not connect directly to either I-24 or the Ford Parkway; less access to industrial development and high number of stream crossings.
- Alternative 3D: Does not adequately meet project purpose to provide improved regional truck access to the NHS or NN since it does not connect directly to either I-24 or the Ford Parkway; low public support; less access to industrial development; less effective as an alternate truck route for US 641; high negative community and environmental impacts including relocations; and less access to area roadways.
- Alternative 3E: Does not adequately meet project purpose to provide improved regional truck access to the NHS or NN since it does not connect directly to either I-24 or the Ford Parkway; low public support; less access to industrial development; high negative community and environmental impacts including relocations; and high construction costs.

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VIII. ENVIRONMENTAL OVERVIEW

This chapter provides a summary of the environmental issues identified in the project area based on a separate Environmental Overview Report completed July 2004. The full version of the Environmental Overview Report is included in **Appendix G**. Many environmental features identified within the project area are shown on **Figure B-1** in **Appendix B**.

Construction of the proposed project is not expected to change current land use in the project area. Due to the terrain in the study corridors and the dominant agricultural base of much of the adjacent area, the project is not expected to induce significant new housing or commercial development, nor result in unanticipated additional pressure on public services. Current land use applications and trends are expected to continue for the future, and the project is not expected to interfere with any zoning or development plans in the area since local officials in both Lyon and Caldwell Counties have expressed support for the project.

Farmland is the most abundant resource in the study area, including a mixture of pasture, cropland, and subsistence gardens. Some individual farmland properties may be negatively affected, depending on the corridor selected, but the farmland conversion would not represent a serious net loss of farmland along the corridor or for the region as a whole. However, efforts should be made in future phases to further define the effects of alternatives on individual agricultural complexes and reduce land conversion impacts by design modifications where practical. Future phases should be coordinated with the Natural Resources Conservation Service, and farmland impact assessment evaluations will be needed under the Farmland Protection Policy Act (FPPA).



*Prime farmland along KY 91 in
Caldwell County*

Air quality is not expected to be adversely impacted with the proposed project, nor is highway noise expected to influence project feasibility or alternative location designations. The project area has been designated an attainment area for all transportation-related pollutants (CO, HC, NO_x, and TSP). However, future phases will require project-level emissions since the project does not originate from a conforming Statewide Transportation Improvement Plan (STIP). The project will need to be added to the Six-Year Highway Plan and the STIP prior to advancement.

Highway noise impacts are not expected to be a major concern on this project and are not expected to influence project feasibility or location decisions. Most receptors are single isolated structures, and several of the receptors (residences) may be acquired for project construction.

Aquatic and terrestrial ecosystems could experience adverse impacts from construction activities associated with stream channelization, culvert and bridge structures, and non-point source discharges. The project lies within a well-developed karst region where few detailed investigations have been conducted; therefore, all springs and sinking streams should be inventoried and monitored prior to and during any major highway construction. Best Management Practices (BMPs) and erosion and sediment control plans should be employed to prevent adverse impacts to sensitive resources.

Potential wetland impacts could be more than the area threshold determined by the U.S. Army Corps of Engineers (USACE). Additional investigations should be conducted to confirm the presence of jurisdictional wetlands and establish practicable avoidance measures as necessary. If mitigation is necessary, coordination with the USACE will be required.

Flood Insurance Rate Maps provided by the Federal Emergency Management Agency (FEMA) for Caldwell County indicate that none of the US 641 alternatives encounter any floodplain areas. According to FEMA, Lyon County does not have a Flood Insurance Rate Map. Therefore, any identified potential floodplain impacts should be addressed in accordance with current KYTC standard procedures.

There are a few expanses of forest areas in or near the project corridors that support a complex community of wildlife species. There are also some intermittent and perennial streams that are capable of supporting fish and aquatic macro-invertebrate communities. Other types of potential wildlife habitats include agricultural fields, pastures, wooded areas, areas near settlements, fence rows, and grassy road rights-of-way. Standing snags are an important habitat type for birds, waterfowl, dens for mammals, and possible hibernacula for bats. Mature forests should be avoided since they contain the greatest amount of biodiversity and biomass, and abandoned fields also contain large amounts of diversity.



Lake Barkley along I-24

The predominant wildlife species expected are species capable of co-existing with humans. There are no areas that are pristine or considered critical habitats for threatened or endangered species, and it is highly unlikely that the project will have sensitive species. Additional fieldwork will be necessary to identify wildlife in the corridor to determine if they are threatened or endangered and to assess the quantity and quality of the habitats that do exist.

The Kentucky Division of Forestry lists one big tree in Caldwell County, a Carolina buckthorn located approximately 1.75 miles south of the southernmost terminus of Alternatives 1 and 1A.

According to the U.S. Fish and Wildlife Service (USFWS), summer roost habitat and/or winter hibernacula exist in the project area for the federally endangered Indiana bat and gray bat. The Kentucky Department of Fish and Wildlife Resources indicates that four federally threatened and endangered species are known to occur in the Fredonia and Eddyville 7.5-minute USGS quadrangle. These include the Indiana bat, gray bat, Bald Eagle, and pink mucket. The Kentucky State Nature Preserves Commission indicates that 55 occurrences of plants and animals and no occurrences of monitored exemplary natural communities are located within five miles of the project area (see table in **Appendix G**). Additional investigations will be necessary during the Preliminary Engineering and Environmental (PE/E) phases of the project.

The Kentucky Heritage Council (KHC) files list records for eight properties identified within the study corridors. A field review found that two of these sites were no longer extant and a third was in a ruinous condition and could not be evaluated under National Register of Historical Places criteria as a standing structure. In addition to the five remaining KHC sites, six more properties were identified within the study corridors for a total of eleven (11) potential structures within the project area that meet the 50 years of age or older criterion requiring evaluation for historic significance (see **Appendix G** for a description of the original eight sites and the additional six sites). A determination of historic significance should be made as soon as possible, the presence of structures or sites eligible for listing on the National Register of Historic Places could materially affect



Historic home near Fredonia

project location decisions.

One known archaeological site, Mill Bluff Spring, lies within or near the study area, and it should be avoided if possible. Otherwise, none of the US 641 alternative corridors intersect any archaeological sites currently listed in or considered eligible for listing in the National Register of Historical Places. Initial project area research indicates that the project corridors bisect a variety of ecological zones that may contain a variety of prehistoric archaeological sites. Therefore, project-specific Phase I archaeological investigations should be conducted in accordance with current KYTC procedures.

One active underground storage tank (UST) site and four former UST sites have been designated for investigation as sites of potential environmental concern. The active site is the Lyon County School Bus Garage at 101 Jenkins Road in Eddyville. The four former UST sites are former gas stations that are likely to have had their USTs removed, but this could not be verified for all sites. These sites were located at the southern terminus of Alternatives 2 and 2A and near the junction of US 641 and US 62. If any of these sites would be affected by the proposed project, they should be evaluated for petroleum and toxic substances contamination.

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IX. GEOTECHNICAL OVERVIEW

This chapter provides a summary of the environmental issues identified in the project area based on a separate Geotechnical Overview Report completed in July 2004. This report, which includes topographic and geologic maps, is included in **Appendix H**.

All eight proposed corridors lie within Lyon and Caldwell Counties. Sections of the proposed corridors which lie along the eastern side of the study area would be located within the Fredonia Valley. The Fredonia Valley is characterized by gently rolling hills, and the majority of the valley is comprised of farmland, pasture, or forest. The sections of the proposed corridors along the western side of the study area would be located in moderately sloping terrain with narrow valleys. The terrain is steeper and hillier west and directly north of Eddyville.

A. Potential Issues

Within the project area, geotechnical issues identified for further consideration throughout future phases of this project include the following:

- **Fault Zones**: Two major fault zones were identified on the geologic maps. One unnamed fault zone lies along the southern edge of the project area. These faults are northeast-southwest trending. The Tabb Fault System is an east-west trending series of faults less than one mile north of Fredonia. It is advisable for the corridors to cross faults in a perpendicular manner. Each of the proposed corridors appears to cross the faults at nearly perpendicular angles.
- **Karst Activity**: Numerous sinkholes were noted in the northern and eastern portions of the project area, mostly within the Fredonia Valley. The majority of the bedrock underlying the Fredonia Valley is comprised of limestone capped with 5 to 10 feet of sandstone. However, when the sandstone cap is absent, there is considerable karst activity. In general, the entire Fredonia Valley is in a high risk karst area.
- **Quarry**: The Fredonia Quarry is located southeast of Fredonia along the east side of existing US 641. The quarry is an open pit mining operation currently about 110 feet below the existing grade. Mineral rights may have been split from the surface land ownership. Also, blasting for road cuts near the quarry may present some concern for the miner's safety.
- **Gas and Oil Wells**: There appear to be no active oil or gas wells within any of the eight proposed corridors. However, four abandoned wells are shown on area maps: one west of Eddyville along the edges of Alternatives 3 and 3A, and three near the end of the project, north of US 641 and west of KY 902. These four abandoned wells were not observed in the field; however, oil and gas rights may have been split from the surface land ownership. Since there are no active wells, this should not be a major issue for this project.
- **Mining**: Based on a review of topographic and geologic maps, no strip mining appears to have occurred within the project area. Contact with the Kentucky Department of Mines and Minerals indicates that no major coal resources exist and no previous deep coal mining appears to have occurred in the project area. According to existing geologic maps, a mine shaft may have once been located north of Fredonia, probably a remnant of fluorspar deep mining activities. Although the mine shaft is not located in the project area, it may indicate that deep mining has taken place. During the processing of fluorspar, the generation of lead is a byproduct, so there is a likelihood of soil or water contamination.

B. Conclusions

From a geotechnical and constructability standpoint, the proposed corridor should avoid problem areas or potential geotechnical problems, as discussed above. The project faces constructability issues (i.e., sinkholes) which are inherent to the local terrain. However, these issues cannot be eliminated and sound engineering solutions are available to address them.

The most favorable corridor should avoid construction along existing US 641 and the railroad track north of Fairview. Also, the most favorable corridor should avoid closed depressions (sinkholes) by proper alignment selection. From a constructability standpoint, the most favorable corridors should be in the flatter terrain to reduce the amount of cuts and fills required and the likelihood of cut or fill slope instability problems.

Portions of each route are located within karst areas. Remediation of karst areas can be expensive, so it is best to avoid such areas. The corridors have been ranked, from a geotechnical perspective, primarily based on the likelihood of karst activity, but also with regard to its overlap with existing US 641. The ranking from most favorable to least favorable of the eight alternative corridors from a geotechnical perspective is as follows:

- Alternative 3
- Alternative 4
- Alternative 2
- Alternative 4A
- Alternative 3A
- Alternative 2A
- Alternative 1A
- Alternative 1

C. Recommendations

From a geotechnical perspective, the following general conclusions and recommendations are applicable to the proposed corridor:

- Cut soils will likely be used as fill material for this project. Also, some rock excavation in deep cut areas is expected. Based on the local geology, the soil will probably be low to high plasticity mixtures of silt and clay. Chert fragments will also be likely. The rock from deep excavations will probably consist of limestone, shale, or sandstone. Soil or shot rock fill should be placed according to requirements as specified in the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction (latest edition).
- Shrink/swell of newly placed fill should not be of significant concern in most areas. Newly placed fill will need to be placed with proper moisture controls and compaction. However, consolidation of soft, alluvial soils near the valley bottoms may present some settlement concerns for embankments or for box culverts or other drainage structures. Undercutting and stabilization of soft/wet alluvial soils will likely be required when the roadway crosses alluvial areas.
- The majority of the cutting and filling for this project will likely be in soil and, therefore, the majority of the cut and fill slopes would be in soil. The roadway

subgrade could be constructed with durable rock if a more stable road base is desired. For preliminary planning purposes only, expect 2.5H:1V cut and/or fill slopes. Shear strength testing of residual and compacted fill soils will be required. Rock toe buttresses may be required at the toe of slopes in deep alluvial soil areas.

- Depending on the final selected grades, a few cut slopes in rock are expected. Cut slopes in massive, durable sandstone or limestone are typically stable on cut slope angles of ¼H:1V. Cut slopes in durable shale, poor limestone, or fractured sandstone are typically less stable and require cut slopes of ½H:1V. Pre-splitting will likely be required once the rock disintegration zone (RDZ) has been encountered. An overburden bench and flattened cut slopes will be required above the RDZ. Rock coring and a geologic evaluation will be required before specific cut slope recommendations can be presented.
- Groundwater seeps or springs should be expected in down-dip cut areas, especially those cuts that intersect the soil/rock interface. Special construction considerations will likely be required to collect and pipe groundwater in these areas if significant groundwater flows are anticipated or encountered.
- High plasticity soil will probably be used for the majority of the roadway subgrade. Chemical stabilization of the soil subgrade should be expected. The subgrade could be constructed with durable rock if a more stable road base is desired. Some shot rock fill material may be available, depending on the final selected grades. Local geology suggests that some durable limestone or sandstone may be available in the project area. However, there will probably not be sufficient volume to provide a durable rock roadbed without importing additional material.
- Box culverts (or other minor structures) can probably be located on shallow foundations bearing on either stiff soil or rock. Bridge foundations will probably need to bear on rock, either shallow foundations on rock or through driven steel piling or drilled shafts. Karst activity will complicate the installation of rock-bearing foundations. Some modifications of designed foundations are anticipated if pinnacled rock and/or voids are detected in the rock beneath the foundations. Also, large chert boulders can be present in the soil mass, which could deflect driven piles. A detailed geotechnical exploration is warranted in karst areas to assess conditions.
- The project site is located in western Kentucky about 100 miles east of the New Madrid Fault Zone. Seismic loads are presented in the Kentucky Building Code (2002 Edition), Table 1608.2, page 232, for Caldwell County and page 233 for Lyon County. In general, the project is located in a seismic zone, which indicates moderate to severe damage to structures during large earthquake events.

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X. Level 2 Screening

A Level 2 Screening was conducted to further define the alternatives. This process began with conducting the environmental and geotechnical overviews, as described in **Chapters VIII and IX**. Following the conclusion of these studies, the second round of public and agency input was conducted and is described below. The input received as part of these activities was summarized and presented to the project team for discussion, which resulted in the recommendation of a preferred corridor.

A. Local Officials and Agencies Meeting - Round II (July 26, 2004)

As part of the public involvement portion of this study, two meetings were held on Tuesday, July 26, 2004, with local officials and potential stakeholders: the first in the morning at the Lions Club in Fredonia and the second in the afternoon at the Lyon County Public Library in Eddyville. In addition, a separate meeting was held in the afternoon at the Lyon County Public Library for the media. The purpose was to present information and get input on public survey results following the September, 2003 public meetings; early resource agency input; 14 project alternatives considered to date; level one screening of all 14 alternatives; the final eight (8) alternatives to be carried forward for further evaluation; and the results of the environmental overview and geotechnical overview of those eight alternatives. Copies of the meeting minutes are included in **Appendix C**.

1. Local Officials and Agencies Meeting - Fredonia

A total of 24 persons attended the local officials meeting in Fredonia to discuss the Alternatives Study, including project team members. Topics discussed during the meeting included:

- Review of input received to date, including public survey summary, areas to avoid, proposed corridors, and resource agency input;
- Environmental justice results;
- Proposed alternatives;
- Review of environmental and geotechnical overviews;
- Next steps; and
- Local issues.

Some of the comments and local issues identified were as follows:

- There is concern over why this project is not fully funded.
- Alternative 1 does not provide a good connection.
- Alternative 3 is preferred, but would take prime farmland.
- There is not a big concern with the southern terminus being US 62 as opposed to I-24 or the Ford Parkway.
- Fredonia is concerned with taking business from the city. Alternative 3 would help business less than the eastern bypass alternative.
- The quarry would have to find a connection to Alternative 3. A lot of this business is going south.

- Alternative 2A is a win-win for everyone: it helps the industrial park, quarry, and Fredonia. 4A could also meet these criteria.

2. Local Officials and Agencies Meeting - Eddyville

A total of 19 persons attended the local officials meeting in Eddyville to discuss the alternatives study, including project team members. Topics discussed during the meeting included:

- Review of input received to date, including public survey summary, areas to avoid, proposed corridors, and resource agency input;
- Environmental justice results;
- Proposed alternatives;
- Review of environmental and geotechnical overviews;
- Next steps; and
- Local issues.

Some of the comments and local issues identified were as follows:

- It was clarified that Alternative 4 would have direct access to the Ford Parkway while Alternative 2 would terminate at US 62.
- Alternative 3 is not favored.
- Alternative 4 would pass through a property where the Nature Conservancy is working with the property owner to restore its natural habitat.
- It was noted that the ultimate typical section would be a four-lane partially controlled facility.
- It was suggested all utility companies be involved in the agency coordination.
- It was noted that wetlands would be evaluated more thoroughly in the next phase of work.
- More than one corridor could be carried forward to the next phase; however, as part of the NEPA process, the objective is to eliminate corridors that don't adequately meet the purpose and need of the project or that have a major environmental issue. Even if other corridors are carried forward, the study could still recommend a preferred alternative, subject to further investigation.

3. Media Meeting - Eddyville

A total of 10 persons attended the media meeting in Eddyville to discuss the alternatives study, including project team members. Topics discussed during the meeting included:

- Review of input received to date, including public survey summary, areas to avoid, proposed corridors, and resource agency input;
- Environmental justice results;
- Proposed alternatives;
- Review of environmental and geotechnical overviews;

- Next steps; and
- Local issues.

Some of the comments and local issues identified were as follows:

- A couple of questions related to funding were raised. It was noted that right-of-way, utilities and construction dollars for the section north of Fredonia have not been authorized. For the section south of Fredonia, a five (5) mile section is included in the KYTC Six-Year Highway Plan for design, but this money hasn't been authorized as yet. It was also explained that the most recent Six-Year Highway Plan hasn't been approved by the General Assembly. This can be confusing because the most recent unapproved version does have variations from the previous approved plan.
- As part of the recommendations of this study, a phasing plan for implementation will be identified, since the entire project can't be built at one time.
- It was noted that more than one corridor could be carried forward to the next phase of work. However, as part of the NEPA process, the objective is to eliminate the corridors that don't adequately meet the purpose and need of the project or that have potentially significant environmental concerns. The study could recommend that more than one alternative be carried forward into the next phase, but still recommend a preferred alternative, subject to further evaluation.

B. Public Information Meetings – Round II (August 2004)

On Monday, August 23, 2004, and Tuesday, August 24, 2004, Public Involvement Meetings were held at the Lyon County Public Library in Eddyville, Kentucky and Fredonia Lions Club in Fredonia, Kentucky, respectively. The meetings were held from 5:00 p.m. to 7:00 p.m. CDT. The purposes of the meetings were to allow the public to review their previous input on the proposed project, view the Level 1 Screening process to discover how the recommended alternatives were chosen, and express their opinions on their favorite and least favorite alternatives. A total of 80 persons registered their attendance at the two-hour public session in Eddyville, not including the thirteen KYTC, ADD, and consultant staff. A total of 90 persons registered their attendance in Fredonia, not including the thirteen KYTC, ADD, and consultant staff. Minutes for each meeting are included in **Appendix C**.

The public involvement meetings were arranged with multiple project information stations, and KYTC, ADD, and consultant staff members were available to answer questions and discuss issues. Upon arrival, attendees were given a survey questionnaire, project brochure, proposed alternative corridors map, public survey summary, and information regarding KYTC roadway projects.

A section of the room was set up in a straight line arrangement of project exhibits, including the following titles:

- What are the preliminary project goals?
- What is the history of the US 641 Alternatives Study?
- How many cars and trucks are on area roadways today (2003) and what is the level of service?
- If there are no new road improvements, how many cars and trucks will be on area roadways in 2025 and what is the level of service?

- What areas did the public want to avoid?
- What corridors were proposed by the public?
- September 2003 Public Meetings – Survey Response Summary
- What corridor alternatives were proposed following the public meetings?
- Level 1 Screening – Project Goals
- Level 1 Screening – Environmental
- Level 1 Screening – Cost
- Level 1 Screening – Summary
- What corridor alternatives were considered for further evaluation?



Project exhibits displayed in Eddyville prior to the start of the public meeting

Attendees were asked to complete the survey questionnaire prior to leaving the meeting, or return it to the KYTC at a later date in the postage-paid envelope provided. A table was available to attendees to fill out their survey form and read over the project materials. Refreshments were also provided.

1. General Comments

Attendees were invited to discuss any questions or concerns with KYTC and consultant staff. General comments included the following:

- A number of individuals expressed concern that one or more of the proposed alternatives would go through their home and/or farmland.
- Several attendees expressed interest in the preferred alternative providing access to the proposed Pennyrile WestPark Industrial Park north of the West Kentucky State Penitentiary Farm.
- The cost of the proposed alternative was a major consideration for many people when deciding on their preferred alternative.
- One individual wanted the proposed alternative to be relocated away from the existing US 641 to reduce the risk of relocations along the existing route.
- A number of individuals expressed strong opposition towards the proposed project.
- One individual that lives on US 641 stated that the existing road was safe for truck traffic.
- Several attendees commented that Alternative 1 would destroy the most prime farmland in the study area.



Public Meeting at the Lions Club in Fredonia

- One individual did not want the proposed alternative to bypass Fredonia due to fear of the family gas station losing significant business.
- A missing cemetery was identified on the exhibits by one attendee. The location was identified on a handout map and provided to the consultant.

2. Public Comment Survey Responses

As part of the public meeting handout, the KYTC supplied a survey form so that citizens of the area could provide input on the project. The KYTC collected surveys from the two public meetings in Fredonia and Eddyville.

Responses to the four questions on the public comment survey are tabulated in **Table 9** and summarized below:

- The largest percentage (40%) of the survey respondents, including local officials, preferred Alternative 2 as the improvement route for US 641. The second most preferred route was Alternative 1 (20%).
- Few respondents noted any areas within the preferred corridor alternatives which should be avoided.
- Of the 149 responses, 46 respondents (31%) would drive their preferred corridor on a daily basis, while 37 (25%) respondents would drive the corridor on a weekly basis.
- Almost half of the respondents (47%) chose Alternative 1 as the least favored improvement alternative for US 641. Alternative 3 came in second as the least preferred route (27%).

C. Resource Agency Coordination – Round II (August 2004)

Input was solicited from many local, state, and federal resource agencies a second time through written requests. Each agency was sent a project brochure and map of the eight (8) corridor alternatives to review. Response letters from the 27 responding resource agencies are located in **Appendix I** and are summarized below:

- Crittenden County Fiscal Court: In response to a request for input, the Crittenden County Fiscal Court passed a resolution in support of the US 641 project. The resolution was passed on September 30, 2004. It stated that it was in the best interest of the citizens of Crittenden County for the KYTC to establish a four-lane highway to replace existing US 641. The benefits would include enhancement to public safety, economic development and quality of life. The Crittenden County Fiscal Court endorsed as their first choice, Alternative 3; second choice, Alternative 2; and third choice, Alternative 4.
- Atmos Energy Corporation: Atmos Energy serves the cities of Fredonia, Marion and Eddyville and also the Fredonia Quarry and the West Kentucky State Penitentiary with natural gas. The relocation routes will affect their existing right-of-ways. A brief description of their lines and their proximity to the proposed alternatives were listed for review. In particular, Alternatives 1 and 3 both cross Atmos Energy lines.

Table 9. Public Survey Response Summary – Round II (August 2004)**1. Which improvement alternative do you prefer for US 641? (Check One)¹**

Alternative	1	1A	2	2A	3	3A	4	4A	No response
Number of Responses	30	4	64	12	8	4	21	11	8
Percent of Total	20%	3%	43%	8%	5%	3%	14%	7%	5%

1. Which improvement alternative do you prefer for US 641? (Check One)²

Alternative	1	1A	2	2A	3	3A	4	4A	No response
Number of Responses	28	3	56	11	6	2	16	9	8
Percent of Total	20%	2%	40%	8%	4%	1%	12%	6%	6%

2. Are there any areas within your preferred corridor alternative which should be avoided?

Few responses were recorded.

3. If your preferred corridor alternative existed today, how often would you drive it?

Alternative	Every Day	Once per week ³	Once per month	Rarely	Never	No response
Number of Responses	46	37	11	22	5	28
Percent of Total	31%	25%	7%	15%	3%	19%

4. Which improvement alternative do you NOT prefer for US 641? (Check One)¹

Alternative	1	1A	2	2A	3	3A	4	4A	No response
Number of Responses	65	15	8	8	48	16	11	9	17
Percent of Total	43%	10%	5%	5%	32%	11%	7%	6%	11%

4. Which improvement alternative do you NOT prefer for US 641? (Check One)²

Alternative	1	1A	2	2A	3	3A	4	4A	No response
Number of Responses	59	5	2	4	34	1	1	2	17
Percent of Total	47%	4%	2%	3%	27%	1%	1%	2%	14%

Notes

¹ Several responses included multiple alternatives

² Only one-answer responses are included

³ Responses included those who stated "2 or 3 times per week" in the Other box

- Crittenden County Economic Development Corporation (CCEDC): The CCEDC strongly endorses Alternative 2A. The CCEDC identified no adverse effects if this Alternative were chosen. With the forthcoming development of the 5-county Pennyriple WestPark Industrial Park on 800 acres on state-owned property adjacent to the West Kentucky State Penitentiary Farm, it is economically vital that the new US 641 be in close proximity to this site. Attracting large companies will hinge greatly on 4-lane highway access.
- City of Marion Planning Commission: Mr. Ford, representing both the City of Marion Planning Commission and CCEDC strongly supported Alternative 2A. He felt that Alternative 2A will support the Pennyriple WestPark Industrial Park as well as small business owners located in Fredonia and Marion.
- Dorsey Ridley, Kentucky State Senator, 4th District: Senator Ridley had two comments regarding the alternative routes proposed for the project: 1) it appears that Alternative 2 would affect the fewest individuals and require the smallest number of relocations, by bringing the route around to the west, it would make for easier right-of-way acquisition; 2) beyond the Fredonia area, he was quite concerned about how the project will co-exist with both the quarry and the West Kentucky State Penitentiary Farm. For environmental and safety reasons it might appear that using the present corridor in this area would be prudent.
- Kentucky Department of Corrections, Western Kentucky Corrections Complex (WKCC): Alternatives 1, 4, and 4A may compromise the mission of the WKCC. A four-lane highway running adjacent to or crossing prison property may provide access to dangerous contraband (e.g., drugs and weapons) and provide the potential for escape through easier facilitation. WKCC opposes these three alternatives.
- Kentucky Department of Travel, Commerce Cabinet: It appears that each proposed route, with the exception of Alternative 3, will make travel to Mineral Mounds State Park much easier for the traveler. Each route has what appears to be a minimal impact upon natural habitat and historic sites in the area. This is the case to a lesser extent with Alternative 1, Alternative 1A, and Alternative 2A. The Kentucky Department of Fish and Wildlife, Kentucky Historical Society, and the Kentucky Heritage Council should be contacted for an opportunity to provide input relating to their interest. The efforts to improve the Kentucky roadways are greatly appreciated.
- The Nature Conservancy: Alternatives 4 and 4A would divide a 600-acre farm the Conservancy is currently partnering with. Alternatives 1 and 1A would divide a 1000-acre property they also work with to establish good conservation practices on their property. Consideration should be given to not fragmenting these and other large tracts of land.
- Kentucky State Police, Mayfield Post: The Commander of the Kentucky State Police (KSP) Mayfield Post supports the goal of improving connectivity. A reconstructed or relocated US 641 should benefit the agency and the public by decreasing the number of accidents by improving the roadway character. The KSP is not aware of any issues that might have a negative impact on the proposal.
- Cabinet for Health and Family Services: The Cabinet currently leases property in the study area; however, didn't feel the project would create a hardship on their staff or clients. Felt the project would ultimately have a positive impact on the traffic flow in the area.

- Kentucky Transportation Cabinet, Division of Environmental Analysis: The Noise status and Air Quality status of the project likely would not be a problem. If the project is to be federally funded then limited base studies would be required to determine any Air and Noise impacts. Stream and Wetland impacts should be limited/avoided. These areas if impacted would require 401 and 404 permits. Several listed endangered species potentially located in the project area will likely require a biological assessment. Mitigation will be required if any of the specific habitat areas are impacted and/or unavoidable. Specific details concerning HAZMAT and storage tanks would need to be obtained through a site assessment although one known site is present, four other former service station sites could pose problems. A cultural historic base study will be required due to the potential impact to resources in the project vicinity. An Archaeological survey will be required in order to determine if any potentially eligible sites are present in the area of concern.
- Kentucky Department of Fish and Wildlife Resources (KDFWR), Commerce Cabinet: The Kentucky Fish and Wildlife Information System indicates that there are several Federal threatened and endangered species within a 10-mile radius of the project site and several state threatened and endangered species within a 2-mile radius of the site. A list of these species was enclosed. KDFWR provided specific recommendations on how to address this issue. KDFWR also noted that the project may have impacts on wetlands and waterways and also made specific recommendations on how to address those issues.
- Kentucky Department of Natural Resources: The project is located in an area of known oil and gas exploration. Oil and gas operators should be contacted regarding possible impacts.
- Kentucky Division for Air Quality, Natural Resources and Environmental Protection Cabinet: Kentucky Division for Air Quality Regulations 401 KAR 63:010 (Fugitive Emissions) and 401 KAR 63:005 (Open Burning) apply to the proposed project. The project must also meet the conformity requirements of the Clean Air Act as amended and transportation planning provisions of Title 23 and Title 49 of United States Code. Every effort should be made to maintain compliance with these regulations and requirements. The Division also suggests an investigation into compliance with applicable regulations in the local governments.
- Department for Natural Resources, Environmental and Public Protection Cabinet: The department has identified one active rock quarry located in the project area. This quarry is permitted under the name of Martin Marietta Materials, Inc (Permit No. 017-9403).
- Kentucky Transportation Cabinet, Division of Traffic, Permits Branch: The Permits Branch makes the same recommendations as previously mentioned, these include: 1) This project should provide for a partially controlled access facility, with access control fencing and all possible access points set on the plans in accordance with 603 KAR 5:120; 2) The design speed should be the same as the anticipated posted speed when the project is completed; and 3) The Permits Branch should be notified if the proposed route is to be placed on the National Highway System.
- Division of Conservation, Environmental and Public Protection Cabinet: The Division noted that no agricultural districts were established in the project area. [Note: Following receipt of this letter, an application was filed to establish an agricultural district along US 641 southeast of Fredonia] Both prime farmland and farmland of

statewide importance could be impacted by this project. Recommended best management practices (BMPs) be utilized to prevent non-point source water pollution.

- Kentucky Airport Zoning Commission: The proposed alternatives will have no adverse affect to air navigation. However, if construction equipment exceeds 200 feet above ground level, then a permit will have to be issued by the Commission.
- Federal Aviation Administration: If construction activities exceed 200 feet in height above the ground level, notice will need to be given to FAA.
- Department of Health & Human Services, United States Public Health Service: The department did not have any project specific comments, but did identify the following areas of potential public health concern: 1) air quality, 2) water quality and quantity, 3) contamination of wetlands and floodplains, 4) hazardous materials and wastes, 5) non-hazardous solid waste and other materials, 6) noise, 7) occupational health and safety, 8) land use and housing, and 9) environmental justice.
- Kentucky Department of Agriculture: The agency has no specific concerns or issues concerning the project.
- Kentucky Department of Military Affairs: There are no impacts from the proposed project that concern this agency.
- Kentucky Department of Parks: The proposed project will not directly impact any of the Department's facilities.
- Kentucky Department of Vehicle Enforcement, Justice and Public Safety Cabinet: There are no concerns from a vehicle enforcement standpoint.
- Kentucky Division of Materials, Geotechnical Branch: The Branch has no further comments concerning the project at this time.
- Kentucky Education Cabinet: The Cabinet does not have any comments to offer at this time.
- United States Coast Guard, Bridge Branch: A Coast Guard bridge permit would not be required on this project.

D. Level 2 Screening Matrix

A Level 2 Screening matrix, presented in **Table 10**, was developed to summarize key findings from the Environmental Overview, Geotechnical Overview, Round II public input, and Round II resource agency feedback. Each of these components is described in more detail in previous sections. In addition, the final eight (8) alternatives were ranked in accordance with how well they adhered to the Purpose and Need.

Table 10. Level 2 Screening Matrix

Alternative	Level 1 Screening Recommendation	Revised Purpose and Need ¹	Environmental Overview - Impacts ²	Geotechnical Overview ³	Public Input - Round II ⁴	Resource Agency Feedback ⁵	Recommendation
No Build	Medium	Low	Low	--	--	--	Recommended for further study
1	High	Medium	Medium	1	4	Low	Not recommended for further study
1A	Medium-High	Medium	Low	2	3	Medium	Not recommended for further study
2	High	Low	Medium	6	8	High	Not recommended for further study
2A	High	Low	Medium	3	7	High	Not recommended for further study
3	Low-Medium	Low	High	8	2	Low	Not recommended for further study
3A	Medium	Medium	High	4	1	Medium	Not recommended for further study
4	Medium-High	High	Medium	7	6	Low	Recommended for further study
4A	High	High	Medium	5	5	Low	Not recommended for further study

Notes:

- 1) The Purpose and Need was revised to include recommending a direct connection to either I-24 or the Ford Parkway.
- 2) Included impacts to potential historic structures, underground storage tanks, and archaeological sites.
- 3) As ranked in the Geotechnical Overview Report with 8 representing the most favorable alternative.
- 4) As ranked by the public considering both questions 1 and 4 with 8 representing the most favorable alternative.
- 5) Specific comments for and against each alternative are summarized in Section C.

Most favorable alternate in addressing the particular criterion.
Least favorable alternate in addressing the particular criterion.

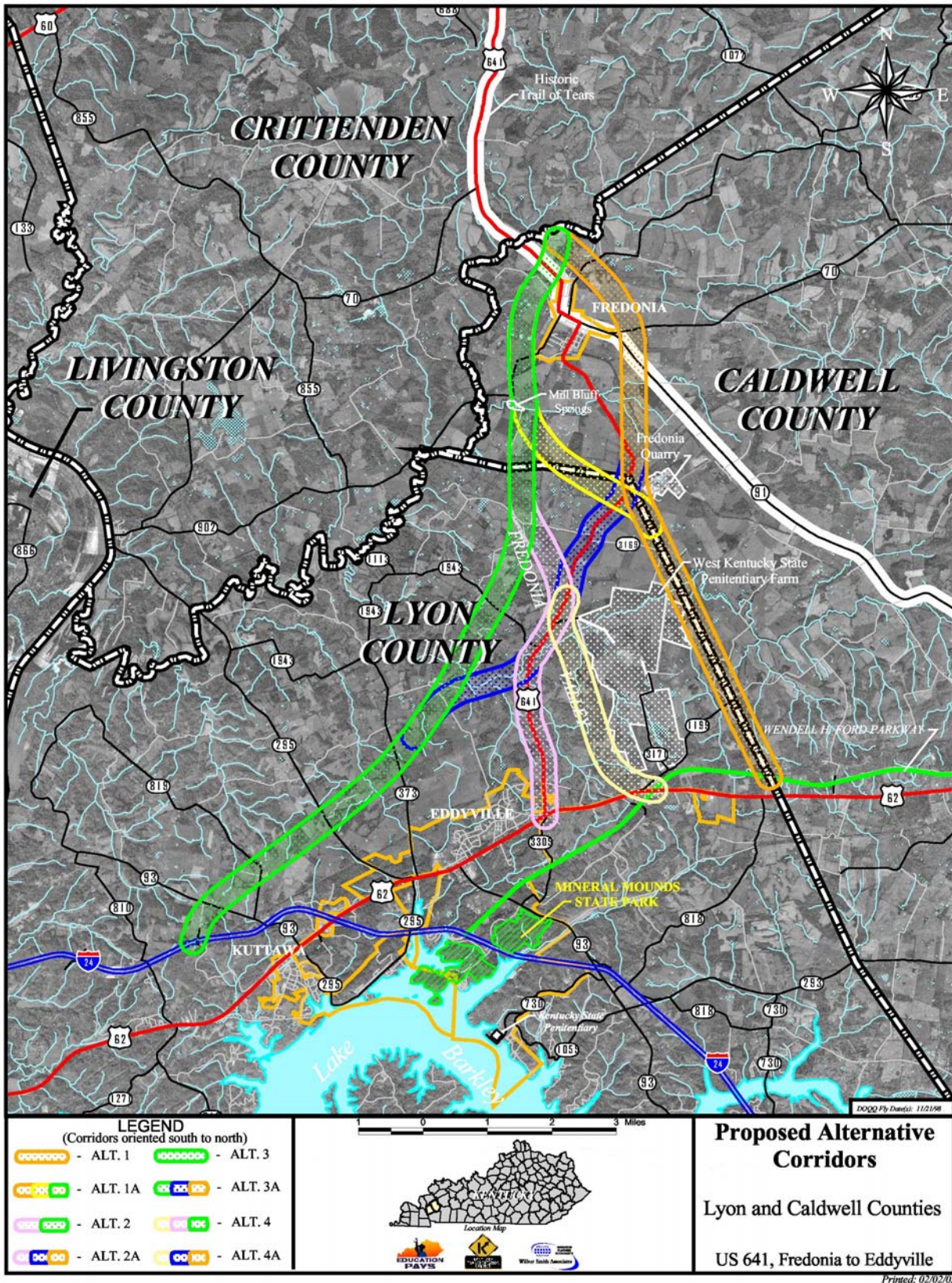
E. Final Project Team Meeting (November 22, 2004)

The Final Project Team Meeting was held on November 22, 2004 at the KYTC District 2 Conference Room in Madisonville, Kentucky. Attendees at the meeting included staff from the PADD, KYTC Districts 1 and 2, KYTC Division of Planning, and the project consultant. The purpose of the meeting was to review input to date, discuss the proposed alternatives, and make final recommendations for the study. The meeting minutes are included in **Appendix C**.

As discussed in **Chapter VII** and shown in **Figure 10**, the final proposed alternatives presented for consideration by the project team include:

- Alternative 1: Traveling east around Fredonia with a southern termini at the Ford Parkway;
- Alternative 1a: Traveling west around Fredonia with a southern termini at the Ford Parkway;
- Alternative 2: Traveling west around Fredonia with a southern termini at the existing US 62/US 641 intersection;
- Alternative 2a: Traveling east around Fredonia with a southern termini at the existing US 62/US 641 intersection;
- Alternative 3: Traveling west of Fredonia with a southern termini at I-24;

Figure 10. Level 2 Screening Proposed Alternative Corridors



- Alternative 3a: Traveling east around Fredonia with a southern terminus at I-24;
- Alternative 4: Traveling west around Fredonia with a southern terminus at Exit 4 along the Ford Parkway; and
- Alternative 4a: Traveling east around Fredonia with a southern terminus at Exit 4 along the Ford Parkway.

The information included in the Level 2 Screening was presented to the project team for discussion. The following special considerations were discussed in varying levels of detail:

- Potential impacts on prime farmland;
- A newly proposed agricultural district located southeast of Fredonia and just north of the West Kentucky State Penitentiary Farm property;
- Avoidance of Mill Bluff Spring;
- Nature Conservancy concerns about wildlife habitat protection;
- Avoiding or minimizing locating on or near karst/sinkholes in the area;
- Avoidance of and access to the Fredonia quarry;
- Relative impacts on the West Kentucky State Penitentiary Farm;
- Forecasted traffic along US 641 for the build condition;
- Multimodal/Intermodal considerations;
- The importance of providing access to the Pennyrile WestPark Industrial Park just north of the West Kentucky State Penitentiary Farm; and
- Avoiding or minimizing utility impacts and/or involvement.
- As a result of these discussions, the conclusion was reached that the public in the study area favors (1) staying along existing US 641 as much as possible on the southern end of the proposed project and (2) providing a western bypass of Fredonia on the northern end of the proposed project. It was also agreed by the project team that there is a strong need to provide good truck access to the Pennyrile WestPark Industrial Park.

At the conclusion of the meeting, Alternative 4 and the No Build Alternative were recommended for further study. The other seven (7) alternatives were not recommended for further study and specific reasons for dismissal are discussed in the following section.

F. Project Team Recommendations

Based upon consideration of project purpose and need, transportation issues, access needs, potential environmental and community impacts, and public/agency input, the project team agreed that the following alternatives would not be considered for further study:

- Alternative 1: May not serve the project purpose adequately because the southern terminus is too far from Eddyville and I-24; has major potential prime farmland impacts; most opposed alternative by public; opposed by 95% of local

officials/stakeholders; probability of geotechnical problems due to karst topography; opposed by West Kentucky State Penitentiary Farm for security reasons; and crosses Atmos Energy gas lines.

- Alternative 1A: May not serve the project purpose adequately because the southern terminus is too far from Eddyville and I-24; major potential prime farmland impacts; passes through potential new agricultural district; has second highest number of potential impacts on historic sites; probability of geotechnical problems due to karst topography; opposed by West Kentucky State Penitentiary Farm for security reasons; and may cross Atmos Energy gas lines.
- Alternative 2: Although it is the most favored alternative by local officials/stakeholders and the public, it does not adequately meet the project purpose to provide improved regional truck access and access to the NHS or Truck Network since it does not connect directly to either I-24 or the Ford Parkway; has second highest number of potential relocations; has highest number of potential impacts on historic sites; and has second highest potential impacts on sewer lines and utility lines.
- Alternative 2A: Does not adequately meet the project purpose to provide improved regional truck access and access to the NHS or Truck Network since it does not connect directly to either I-24 or the Ford Parkway; has highest number of potential relocations; has highest potential impacts on sewer lines and utility lines; has major potential farmland impacts near Fredonia; and passes through potential new agricultural district.
- Alternative 3: Does not provide access to the Pennyryle WestPark Industrial Park; has relatively high potential relocation impacts; could have a major impact on prime farmland since it has one of the two longest sections located on new alignment; and one of the two longest routes which translates into the highest construction cost and increased state maintenance mileage in the future.
- Alternative 3A: Has relatively high potential relocation impacts; could have a major impact on prime farmland since it has one of the two longest sections located on new alignment; one of the two longest routes which translates into the highest construction cost and increased state maintenance mileage in the future; would impact prime farmland and pass through a potential new agricultural district east of Fredonia; and possibility of karst topography east of Fredonia.
- Alternative 4A: Has major potential farmland impacts and passes through potential new agricultural district near Fredonia.

The project team recommended Alternative 4, to include minor revisions, be carried forward along with the No Build Alternative to the next phase of development. This recommendation is discussed in more detail in **Chapter XI**.

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XI. CONCLUSIONS AND RECOMMENDATIONS

This chapter provides conclusions and recommendations for improvements to US 641 from Eddyville to Fredonia and tying into an improved section of US 641 north of Fredonia currently in the design phase. The recommendations made in this chapter are the result of the Alternatives Study process for the US 641 corridor.

A. Project Purpose and Need

The purpose and need, discussed in detail in the previous chapter, for the proposed US 641 improvement is as follows:

- Provide improved regional access along a reconstructed highway or an alternate route that will:
 - Allow the designation of the route for the legal operation of 102-inch wide trucks between Eddyville and Fredonia;
 - Provide improved access to the National Truck Network and National Highway System to support economic development initiatives in the region; and
 - Provide improved access from north of and in the vicinity of Eddyville to regional recreational and tourist areas, including Lake Barkley and Kentucky Lake.
- Provide a direct connection to either I-24 or the Ford Parkway through an extension of the programmed US 641 project between Fredonia and Marion. This would provide an improved corridor from I-24 near Eddyville to US 60 near Henderson that could serve as an alternate corridor to the Edward T. Breathitt (Pennyryle) Parkway and the Ford Parkway; and
- Help to alleviate public concerns about safety and level of service along the existing US 641 corridor by providing a reconstructed highway or an alternate route with improved roadway geometrics for motorists traveling between Eddyville and Fredonia.

B. Preferred Alternative

Alternative 4 was selected as the preferred alternative; however, the project team agreed that a revised version should be taken into the next phase of project development to better address public concerns. Specifically, Alternative 4 should be modified to minimize the impacts on farmland and wildlife habitats and be positioned to the south and west of Fredonia as close as deemed practical.

To minimize impacts on farmland and wildlife habitats, Alternative 4 was revised to utilize more of existing US 641. The Alternative 4-Revised section just south of Fredonia was shifted east merging with the existing corridor southwest of the Fredonia Quarry. The corridor closely follows existing US 641 south until it diverges east near the Paducah and Louisville Railway. The corridor alignment also provides improved access to the Pennyryle WestPark Industrial Park and the Fredonia Quarry.

Alternative 4-Revised is closer to Fredonia as a result of the revisions and allows the Mill Bluff Spring to be avoided. The Kentucky Department of Corrections was opposed to the close proximity of Alternative 4 to the West Kentucky State Penitentiary Farm. The shift of the corridor closer to US 641 helps address their concerns. Alternative 4-Revised would allow US 641 to be re-aligned near the existing Ford Parkway

interchange (Exit 4) and US 62 to be re-aligned as a T-intersection with US 641. Alternative 4-Revised is presented in **Figure 11**.

In addition to Alternative 4-Revised, the No Build Alternative is recommended to be carried forward to the next phase. However, it should be noted that it does not meet the project purpose because it does not (1) allow the designation of the route for the legal operation of 102-inch wide trucks between Eddyville and Fredonia, (2) provide improved access to the National Truck Network and National Highway System, (3) provide improved access to regional recreational and tourist areas, (4) provide a direct connection to either I-24 or the Ford Parkway from the northern section, and (5) address safety and level of service concerns, particularly in the Fredonia area.

C. Potential Design Criteria and Considerations

Potential design criteria and considerations for the proposed US 641 route are noted here for planning purposes only. Construction sections, typical section, and access control considerations, traffic forecast, and multimodal considerations are addressed. These criteria are general recommendations based upon the information gathered through this planning phase of study. Specific geometric parameters should be defined during future design phases of the project when more detailed information is available.

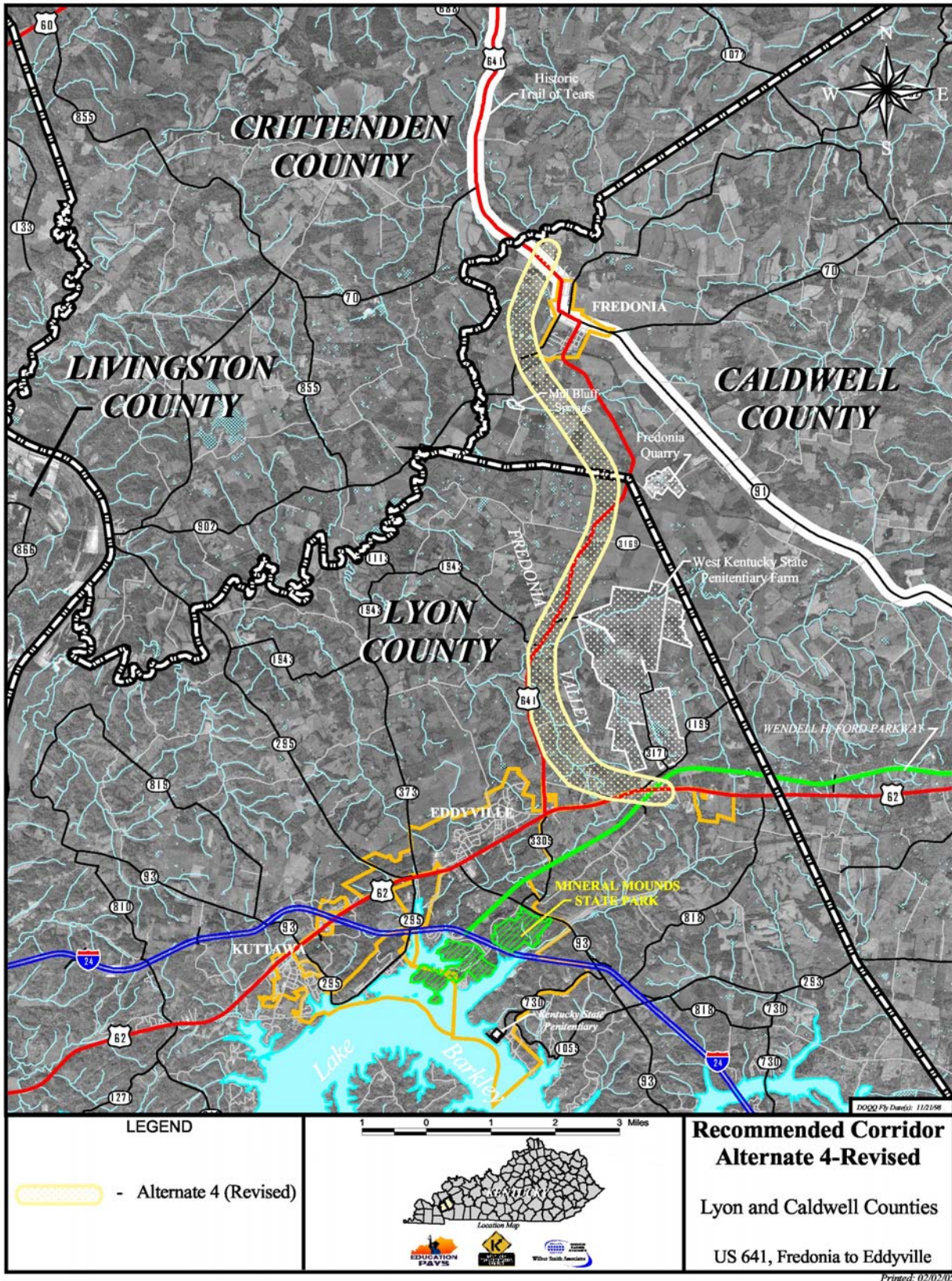
1. Construction Sections

The project team agreed that the proposed project should be built from south to north, with the first section from the Ford Parkway to a tie-in point along existing US 641 near KY 1943 at MP 2.668. The second section would generally follow along US 641 to the beginning of the west bypass of Fredonia at approximately MP 5.000. The third section from MP 5.000 would be on new alignment to an intersection point at KY 902. The final section would continue along new alignment ending at Priority Section 1 already designed north of Fredonia. These priority sections are described in **Table 11**.

Table 11. Construction Sections

Segment	Begin Milepoint	Segment Description	Begin Description	End Milepoint	End Description	Length (miles)
1	N/A	New location	Wendell H. Ford Parkway (Exit 4)	2.668	US 641 at KY 1943	3.2
2	2.668	Along existing US 641	KY 1943	5.000	0.355 mile north of Coleman-Doles Road	2.3
3	5.000	New location	US 641 at 0.355 mile north of Coleman-Doles Road	N/A	KY 902	2.9
4	N/A	New Location	KY 902	N/A	Priority 1 Section at US 641	1.5

Figure 11. Preferred Alternative – Alternative 4-Revised



2. Typical Section

The typical section would match the northern section now designed for US 641 between Fredonia and Marion. This will likely include:

- Four (4) 12-foot lanes with usable shoulder widths of 10 feet;
- Sixty-foot median;
- A design speed of 70 miles per hour; and
- Minimum stopping sight distance of approximately 730 feet.

Figure 12 displays an example typical section provided by Florence and Hutchinson, the lead design firm on the Priority 1 section of US 641, between Fredonia and Eddyville.

3. Access Control Recommendations

If feasible, a full access control facility should be considered from the Ford Parkway to existing US 641 near the Pennyriple WestPark Industrial Park, with partial access control, where possible, for the remaining portion of the proposed project. Access control fencing should be provided and all possible access points set in accordance with 603 KAR 5:120.

4. Traffic Forecast

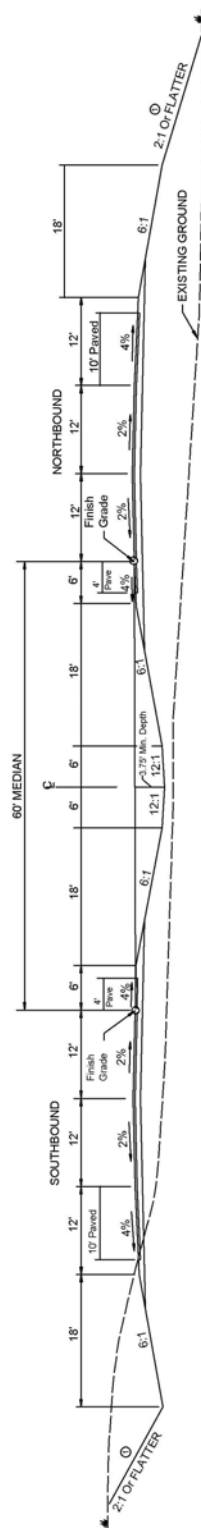
A traffic forecast report² was prepared in October, 2002, for Priority Section 1 of US 641 in Crittenden County. Using the Kentucky Statewide Travel Demand Model, traffic along the improved section of US 641 north of Fredonia would be approximately 15,300 vpd in 2027. This is assuming that improvements are made throughout the US 60/US 641 corridor between Henderson and Eddyville.

Based on the 2025 No Build traffic forecast derived in **Chapter II**, US 641 south of Fredonia experiences a drop in traffic of approximately 500 vpd when compared to the section north of Fredonia. A similar reduction would be expected for the build scenario given the increase in traffic is attributed to through traffic. Therefore the following conclusions can be drawn:

- Traffic along US 641 between Eddyville and Fredonia is forecasted to be approximately 14,800 vpd in 2027.
- Traffic along US 641 south, and potentially north, of the Pennyriple WestPark Industrial Park would likely increase over the above value if developed as anticipated. Additional study would be required to determine the full effects on traffic as a result of this development.

² *Traffic Forecast Report, Crittenden County, US 641 Relocation. Prepared by Jordon, Jones & Goulding, Inc. Prepared for Kentucky Transportation Cabinet, Division of Multimodal Programs. October 29, 2002.*

Figure 12. Recommended Typical Section



Source: US 641 Priority 1 Typical Section, Florence & Hutchinson

Note: Not to scale

5. Multimodal Considerations

Two key issues related to multimodal and intermodal transportation were identified through the course of this study and should be considered as this project moves into future phases.

- Consideration should be given to rail service into and out of the proposed Pennyrile WestPark Industrial Park. This could include coordinating to provide rail service within the right-of-way of the proposed US 641 project, avoid the need for new rail crossings if possible, and/or ensure that rail overpasses are considered where appropriate.
- No special bicycle/pedestrian facilities were identified as being needed at this time; however, there was discussion at the final project team meeting that the shoulders could be used for bicycles on any new roadway segments where the access was not fully controlled, but bicycle/pedestrian accommodations should be considered in accordance with KYTC policy during the next phases of project development.

D. Phase Costs

The estimated total cost for Alternative 4-Revised is \$90,810,000. Cost estimates for each of the four (4) construction sections previously identified are summarized below and shown by phase in **Table 12**:

- Section 1 – \$35,600,000
- Section 2 – \$20,010,000
- Section 3 – \$23,200,000
- Section 4 – \$12,000,000

Table 12. Phase Costs

Priority Segment	Length of Segment (miles)	Design (\$mil)	Right-of-Way (\$mil)	Utility (\$mil)	Construction (\$mil)	Total (\$mil)
1	3.2	\$0.96	\$2.24	\$2.24	\$30.16	\$35.60
2	2.3	\$0.69	\$1.61	\$1.61	\$16.10	\$20.01
3	2.9	\$0.87	\$2.03	\$2.03	\$18.27	\$23.20
4	1.5	\$0.45	\$1.05	\$1.05	\$9.45	\$12.00
Total	9.9	\$2.97	\$6.93	\$6.93	\$73.98	\$90.81

E. Further Study

Further consideration and study is recommended to determine the feasibility of a connector facility between the US 641 preferred corridor and KY 91. Through the study process, it was determined that motorists traveling to and from the east via the Ford

Parkway will regularly travel KY 91 between Fredonia and Princeton. A connection between the improved US 641 and KY 91 would allow motorists, particularly truck traffic, to continue to make this movement, while utilizing an improved corridor.

F. Summary of Environmental Issues for Future Phases

A number of issues related to environmental factors and sensitive land uses were identified through the course of this study that should be considered as this project moves into future phases. These issues have been discussed in greater detail throughout earlier portions of this report; however, several important issues include:

- Agriculture and Farmlands: Farmland is the most abundant resource in the study area. Several landowners along US 641 have applied for designation as an agricultural district. Coordination with these and other landowners will be important in future phases to minimize impacts to farmsteads in the project area.
- Threatened and Endangered Species: Threatened and endangered species should be carefully monitored. The U.S. Fish and Wildlife Service (USFWS) lists four (4) threatened and endangered species as possibly occurring in the project area. They are the Indiana bat, gray bat, Bald Eagle, and pink mucket.
- Water Quality and Aquatic Habitats: Special consideration should be given to the karst topography of the region. All springs and sinking streams should be inventoried and monitored prior to construction. Best Management Practices (BMPs) and erosion and sediment control plans should be employed to prevent adverse impacts to sensitive resources.
- Cemeteries and Unmarked Graves: There are a number of cemeteries documented or observed within the project area. Other cemeteries may be unmarked and are likely to be encountered during construction in this area.
- Archaeological Consideration: Mill Bluff Spring lies in close proximity to the preferred alternative. Alternative alignments should avoid this site.
- Cultural Resources: Consideration should be given to five (5) potential structures in close proximity to the recommended alternative that meet the 50 years of age or older criteria. A determination of historic significance will be needed for these sites.

G. Construction Considerations

A number of issues were identified through the course of this study that should be considered as part of future construction phases. Potential issues related to the construction of the proposed corridor include:

- Threatened and Endangered Species: With bat habitat known to exist within the project area, tree clearing would need to be conducted between November 15th and March 31st in order to avoid impacting the summer roosting period and fall swarming period.
- Erosion and Sedimentation Control: Measures should be utilized to control erosion and sedimentation during, and after, the commencement of earth-disturbing activities. The construction of this project may initially increase the amount of erosion. There may also be an increase in non-point source pollution after the construction of this project. Careful consideration should be given to erosion control

methods and to decreasing the amount of non-point source pollution that reaches surface and ground water.

- Air Quality Impacts during Construction: Construction period air quality impacts will need to be evaluated to (1) expose the potential short-term effects of site preparation, demolition, materials storage and construction and (2) determine if any appropriate mitigation commitments are to be incorporated into the project plans.
- Geologic Conditions: If deemed necessary, a more detailed study of karst topography within the study area, particularly the structural low condition south of Fredonia, should be considered as the project develops.
- Quarry: The Fredonia Quarry is located southeast of Fredonia along the east side of existing US 641. Blasting for road cuts near the quarry may present some concern for the miner's safety. Coordination with the quarry during construction is recommended.

XII. ACKNOWLEDGEMENTS AND CONTACTS

A number of individuals are responsible for the success of this important project. This study would not have been possible without the time, effort, and knowledge of these individuals:

- For contributions to this project, thanks go to Wayne Mosley, Tim Choate, Alan Thomas, Chris Kuntz, Johnny Wall, Kevin McClearn, Nick Hall, Everett Green, and the other KYTC District 1 and 2 staff members who assisted with this effort.
- Thanks also to Craig Morris with the Pennyrile Area Development District for assistance throughout the project.
- Thanks, too, to the KYTC Division of Planning staff, including Project Manager Jimmy Wilson, Branch Manager Daryl Greer, and the data management staff.

Additional information regarding the US 641 Alternatives Study can be obtained from the following KYTC Division of Planning staff members:

- Annette Coffey, P.E., Director
- Daryl J. Greer, P.E., Branch Manager
- Jimmy C. Wilson, P.E., Project Manager

The following address and phone numbers can be used to reach these individuals:

Division of Planning
Kentucky Transportation Cabinet
Station: W5-05-01
200 Mero Street
Frankfort, KY 40622
Phone: (502) 564-7183
FAX: (502) 564-2865



Intersection of US 641 and US 62



Intersection of US 641 and US 62



Looking north along US 641 at US 62



Typical section along US 641 in Lyon & Caldwell Counties



Cemetery with West Kentucky State Penitentiary Farm in background



Martin Marietta Aggregates Quarry Facility outside Fredonia



US 641 between Eddyville and Fredonia



New Bethel Church adjacent to US 641, south of Fredonia



Victory Baptist Church along US 641 north of Eddyville



Typical Section along US 641 north of Eddyville



Farmland adjacent to US 641 between Eddyville and Fredonia



Access along US 641 near Fredonia



Welcome sign for Fredonia



Historic Home near US 641 in Fredonia



Looking south on US 641 in Fredonia



Looking south on US 641 in Fredonia



Prime farmland along KY 91 in Caldwell County



KY 70, East of Fredonia



Historic Home near Fredonia



Pond adjacent to KY 1943



I-24 Weigh Station at Route 810



Tractor traveling west along US 62 east of US 641



Cemetery along KY 295 north of Eddyville



Northbound KY 373 PAL Bridge

Table B-1. Highway Systems

Begin MP	Begin Route	End MP	End Route	State System	National Truck Network (NN)	National Highway System (NHS)	Functional Classification	Truck Weight Class
Lyon County								
I-24 MP 33.880 to MP 54.842								
33.880	Livingston - Lyon County Line	54.842	Lyon - Caldwell County Line	State Primary	Yes	Yes	Rural Interstate	AAA
WK 9001 MP 0.000 to MP 5.610								
0.000	I-24	5.610	Lyon - Caldwell County Line	State Primary	Yes	Yes	Rural Principal Arterial	AAA
US 641 MP 0.000 to MP 5.715								
0.000	US 62	5.715	Lyon - Caldwell County Line	State Primary	No	No	Rural Minor Arterial	AAA
US 62 MP 0.000 to MP 14.183								
0.000	Livingston - Lyon County Line	10.465	KY 3305	State Primary	No	No	Rural Minor Arterial	AAA
10.465	KY 3305	14.183	Lyon - Caldwell County Line	State Secondary	No	No	Rural Major Collector	AAA
KY 93 MP 7.576 to MP 20.394								
7.576	KY 274	12.942	KY 1055	State Secondary	No	No	Rural Major Collector	AA
12.942	KY 1055	16.509	US 62	State Secondary	No	No	Rural Major Collector	AAA
16.509	US 62	20.394	KY 819/KY 810	Rural Secondary	No	No	Rural Minor Collector	A
KY 293 MP 0.000 to MP 3.820								
0.000	KY 93	3.820	Lyon - Caldwell County Line	State Secondary	No	No	Rural Major Collector	AAA
KY 295 MP 0.000 to MP 9.434								
0.000	US 62	3.694	US 62	Rural Secondary	No	No	Rural Minor Collector	A
3.694	US 62	7.194	--	Rural Secondary	No	No	Rural Major Collector	AAA
7.194	--	9.434	Lyon - Crittenden County Line	Rural Secondary	No	No	Rural Major Collector	A
KY 373 MP 0.000 to MP 3.623								
0.000	US 62	3.623	KY 1943	Rural Secondary	No	No	Rural Minor Collector	AAA
KY 730 MP 6.127 to MP 8.714								
6.127	KY 293	8.714	NW End of Water Street in Old Eddyville	Rural Secondary	No	No	Rural Minor Collector	A
KY 810 MP 4.450 to MP 7.796								
4.450	US 62	7.796	KY 93/KY 819	Rural Secondary	No	No	Rural Local	A
KY 818 MP 1.766 to MP 6.292								
1.766	KY 293	6.292	US 62	Rural Secondary	No	No	Rural Minor Collector	A
KY 819 MP 0.000 to MP 8.031								
0.000	KY 93/KY 810	4.448	Bill Thompson Road	Rural Secondary	No	No	Rural Minor Collector	A
4.448	Bill Thompson Road	8.031	KY 93	Rural Secondary	No	No	Rural Local	A
KY 1199 MP 0.000 to MP 1.505								
0.000	KY 3171	1.505	Pleasant Valley Road	Rural Secondary	No	No	Rural Local	A
KY 1943 MP 0.000 to MP 6.994								
0.000	KY 295	2.558	KY 373/Joe Peek Road	Rural Secondary	No	No	Rural Local	A
2.558	KY 373/Joe Peek Road	6.994	US 641	Rural Secondary	No	No	Rural Minor Collector	A

Table B-1. Highway Systems (cont.)

Begin MP	Begin Route	End MP	End Route	State System	National Truck Network (NN)	National Highway System (NHS)	Functional Classification	Truck Weight Class
Lyon County (cont.)								
KY 3169 MP 0.000 to MP 0.380								
0.000	US 641	0.380	Eddyville Prison Farm Boundary	Supplemental Road	No	No	Rural Local	A
KY 3171 MP 0.000 to MP 2.350								
0.000	US 62	2.350	Beck Road	Supplemental Road	No	No	Rural Local	A
KY 3305 MP 0.000 to MP 1.811								
0.000	KY 93	1.811	US 62	Rural Secondary	No	No	Rural Local	A
Caldwell County								
I-24 MP 54.842 to MP 57.389								
54.842	Lyon - Caldwell County Line	57.389	Caldwell - Trigg County Line	State Primary	Yes	Yes	Rural Interstate	AAA
WK 9001 MP 5.610 to MP 21.764								
5.610	Lyon - Caldwell County Line	11.109	--	State Primary	Yes	Yes	Rural Principal Arterial	AAA
11.109	--	11.700	KY 91 Interchange	State Primary	Yes	Yes	Urban Principal Arterial	AAA
11.700	KY 91 Interchange	21.764	Caldwell - Hopkins County Line	State Primary	Yes	Yes	Rural Principal Arterial	AAA
US 641 MP 0.000 to MP 4.629								
0.000	Lyon - Caldwell County Line	4.629	Caldwell - Crittenden County Line	State Primary	No	No	Rural Minor Arterial	AAA
US 62 MP 0.000 to MP 18.277								
0.000	Lyon - Caldwell County Line	18.277	Caldwell - Hopkins County Line	State Secondary	No	No	Rural Major Collector	AAA
US 62-1 MP 6.664 to MP 7.037								
6.664	US 62 (Plum Street)	7.037	US 62 (Market Street)	State Secondary	No	No	Urban Minor Arterial Street	AAA
KY 70 MP 0.000 to MP 5.411								
0.000	US 641	0.492	KY 91	State Secondary	No	No	Rural Major Collector	AAA
0.492	KY 91	5.411	KY 1077	Rural Secondary	No	No	Rural Minor Collector	A
KY 91 MP 13.905 to MP 23.389								
13.905	KY 139	23.389	KY 70	State Secondary	No	No	Rural Major Collector	AAA
KY 293 MP 0.000 to MP 3.206								
0.000	Lyon - Caldwell County Line	3.206	KY 903	State Secondary	No	No	Rural Major Collector	AAA
KY 902 MP 0.000 to MP 7.745								
0.000	Crittenden - Caldwell County Line	7.745	KY 1077	Rural Secondary	No	No	Rural Minor Collector	A
Crittenden County								
US 641 MP 0.000 to MP 7.494								
0.000	Caldwell - Crittenden County Line	7.494	US 60	State Primary	No	No	Rural Minor Arterial	AAA
KY 295 MP 0.000 to MP 1.803								
0.000	US 62	1.803	--	Rural Secondary	No	No	Rural Major Collector	A
KY 902 MP 0.000 to MP 6.116								
0.000	KY 70	6.116	Crittenden - Caldwell County Line	Rural Secondary	No	No	Rural Minor Collector	A

Table B-2. Other Highway Systems

Begin MP	End MP	Appalachian Development Highway System	Bike Route System	Coal Haul (annual tons)	Defense Highway Network	Extended Weight System	Forest Highway System	Scenic Byway System
Lyon County								
I-24 MP 33.880 to MP 54.842								
33.880	54.842	No	No	None	Yes	No	No	No
WK 9001 MP 0.000 to MP 5.610								
0.000	3.700	No	No	None	Yes	Yes	No	No
3.700	5.600	No	No	357,964	Yes	Yes	No	No
5.600	5.610	No	No	None	Yes	Yes	No	No
US 641 MP 0.000 to MP 5.715								
0.000	5.715	No	No	None	Yes	No	No	No
US 62 MP 0.000 to MP 14.183								
0.000	10.470	No	No	357,964	Yes	Yes	No	No
10.470	12.200	No	No	357,964	No	Yes	No	No
12.200	14.183	No	No	None	No	Yes	No	No
KY 93 MP 7.576 to MP 20.394								
7.576	20.394	No	No	None	No	No	No	No
KY 293 MP 0.000 to MP 3.820								
0.000	3.820	No	No	None	No	No	No	No
KY 295 MP 0.000 to MP 9.434								
0.000	9.434	No	No	None	No	No	No	No
KY 373 MP 0.000 to MP 3.623								
0.000	3.623	No	No	None	No	No	No	No
KY 730 MP 6.127 to MP 8.714								
6.127	8.714	No	No	None	No	No	No	No
KY 810 MP 4.450 to MP 7.796								
4.450	7.796	No	No	None	No	No	No	No
KY 818 MP 1.766 to MP 6.292								
1.766	6.292	No	No	None	No	No	No	No
KY 819 MP 0.000 to MP 8.031								
0.000	8.031	No	No	None	No	No	No	No
KY 1199 MP 0.000 to MP 1.505								
0.000	1.505	No	No	None	No	No	No	No
KY 1943 MP 0.000 to MP 6.994								
0.000	6.994	No	No	None	No	No	No	No

Table B-2. Other Highway Systems (cont.)

Begin MP	End MP	Appalachian Development Highway System	Bike Route System	Coal Haul (annual tons)	Defense Highway Network	Extended Weight System	Forest Highway System	Scenic Byway System
Lyon County (cont.)								
KY 3169 MP 0.000 to MP 0.380								
0.000	0.380	No	No	None	No	No	No	No
KY 3171 MP 0.000 to MP 2.350								
0.000	2.350	No	No	None	No	No	No	No
KY 3305 MP 0.000 to MP 1.811								
0.000	1.811	No	No	None	No	No	No	No
Caldwell County								
I-24 MP 54.842 to MP 57.389								
54.842	57.389	No	No	None	Yes	No	No	No
WK 9001 MP 5.610 to MP 21.764								
5.610	21.700	No	No	357,964	Yes	Yes	No	No
21.700	21.764	No	No	57,484	Yes	Yes	No	No
US 641 MP 0.000 to MP 4.629								
0.000	4.629	No	No	None	Yes	No	No	No
US 62 MP 0.000 to MP 18.277								
0.000	19.209	No	No	None	No	No	No	No
18.209	18.277	No	Yes	None	No	No	No	No
US 62-1 MP 6.664 to MP 7.037								
6.664	7.037	No	No	None	No	No	No	No
KY 70 MP 0.000 to MP 5.411								
0.000	5.411	No	No	None	No	No	No	No
KY 91 MP 13.905 to MP 23.389								
13.905	23.389	No	No	None	No	No	No	No
KY 293 MP 0.000 to MP 3.206								
0.000	3.206	No	No	None	No	No	No	No
KY 902 MP 0.000 to MP 7.745								
0.000	7.745	No	No	None	No	No	No	No
Crittenden County								
US 641 MP 0.000 to MP 7.494								
0.000	7.494	No	No	None	Yes	No	No	No
KY 295 MP 0.000 to MP 1.803								
0.000	1.803	No	No	None	No	No	No	No
KY 902 MP 0.000 to MP 6.116								
0.000	6.116	No	No	None	No	No	No	No

Table B-3. Geometric Characteristics

Begin MP	End MP	Length (miles)	Number of Lanes	Lane Width (feet)	Shoulder Width (feet)	Shoulder Type	Speed Limit (mph)	Roadway Type	Terrain Type	Pavement Type
Lyon County										
I-24 MP 33.880 to MP 54.842										
33.880	45.180	11.300	4	12	10	Paved	65	Divided Highway	Flat	High Flexible
45.180	54.842	9.662	4	12	10	Paved	65	Divided Highway	Flat	High Rigid
WK 9001 MP 0.000 to MP 5.610										
0.000	3.675	3.675	4	12	10	Paved	65	Divided Highway	Rolling	High Flexible
3.645	5.610	1.965	4	12	10	Paved	65	Divided Highway	Flat	High Flexible
US 641 MP 0.000 to MP 5.715										
0.000	0.108	0.108	2	12	10	Combinaton	55	Undivided Highway	Rolling	High Flexible
0.108	5.715	5.607	2	11	4	Combinaton	55	Undivided Highway	Rolling	High Flexible
US 62 MP 0.000 to MP 14.183										
0.000	0.200	0.200	2	13	1	Curbed	55	Divided Highway	Rolling	High Rigid
0.200	3.800	3.600	2	12	6	Combination	55	Divided Highway	Rolling	High Flexible
3.800	4.127	0.327	2	12	8	Paved	55	Divided Highway	Rolling	High Flexible
4.127	4.800	0.673	2	12	8	Paved	55	Divided Highway	Flat	High Flexible
4.800	6.780	1.980	4	12	10	Paved	55	Divided Highway	Flat	High Flexible
6.780	8.670	1.890	4	12	10	Paved	55	Divided Highway	Rolling	High Flexible
8.670	9.317	0.647	4	12	10	Paved	45	Divided Highway	Rolling	High Flexible
9.317	9.340	0.023	4	12	10	Paved	55	Divided Highway	Rolling	High Flexible
9.340	10.350	1.010	2	12	10	Paved	55	Undivided Highway	Rolling	High Flexible
10.350	10.465	0.115	2	12	10	Paved	55	Divided Highway	Rolling	High Flexible
10.465	10.545	0.080	2	12	6	Paved	55	Divided Highway	Rolling	High Flexible
10.545	11.971	1.426	2	12	6	Paved	55	Undivided Highway	Rolling	High Flexible
11.971	12.455	0.484	2	12	10	Paved	55	Divided Highway	Rolling	High Flexible
12.455	14.183	1.728	2	12	8	Paved	55	Undivided Highway	Rolling	High Flexible
KY 93 MP 7.576 to MP 20.394										
7.576	8.900	1.324	2	10	4	Combination	55	Undivided Highway	Rolling	High Flexible
8.900	13.536	4.636	2	10	8	Combination	55	Undivided Highway	Rolling	High Flexible
13.536	14.123	0.587	2	12	8	Combination	55	Undivided Highway	Rolling	High Flexible
14.123	16.509	2.386	2	11	8	Combination	55	Undivided Highway	Rolling	High Flexible
16.509	20.394	3.885	2	9	3	Combination	55	Undivided Highway	Rolling	Mixed Bitumous
KY 293 MP 0.000 to MP 3.820										
0.000	0.615	0.615	2	11	10	Paved	55	Divided Highway	Flat	High Flexible
0.615	0.708	0.093	2	11	4	Combination	55	Undivided Highway	Flat	High Flexible
0.708	0.742	0.034	2	9	3	Combination	55	Undivided Highway	Flat	High Flexible
0.742	3.820	3.078	2	9	3	Combination	55	Undivided Highway	Rolling	High Flexible
KY 295 MP 0.000 to MP 9.434										
0.000	1.700	1.700	2	9	3	Combination	55	Undivided Highway	Rolling	Mixed Bitumous
1.700	2.100	0.400	2	9	3	Combination	35	Undivided Highway	Rolling	Mixed Bitumous
2.100	2.320	0.220	2	12	2	Stabilized	35	Divided Highway	Rolling	Mixed Bitumous
2.320	2.740	0.420	2	9	3	Combination	35	Undivided Highway	Rolling	Mixed Bitumous
2.740	9.434	6.694	2	9	3	Combination	55	Undivided Highway	Rolling	Mixed Bitumous
KY 373 MP 0.000 to MP 3.623										
0.000	3.623	3.623	2	9	3	Stabilized	55	Undivided Highway	Rolling	High Flexible
KY 730 MP 6.127 to MP 8.714										
6.127	8.220	2.093	2	10	4	Combination	55	Undivided Highway	Rolling	High Flexible
8.220	8.450	0.230	2	10	3	Stabilized	55	Undivided Highway	Rolling	High Flexible
8.450	8.714	0.264	2	9	3	Stabilized	55	Undivided Highway	Rolling	High Flexible

Table B-3. Geometric Characteristics (cont.)

Begin MP	End MP	Length (miles)	Number of Lanes	Lane Width (feet)	Shoulder Width (feet)	Shoulder Type	Speed Limit (mph)	Roadway Type	Terrain Type	Pavement Type
Lyon County (cont.)										
KY 810 MP 4.450 to MP 7.796										
4.450	7.796	3.346	2	9	2	Stabilized	55	Undivided Highway	Rolling	Mixed Bitumous
KY 818 MP 1.766 to MP 6.292										
1.766	6.292	4.526	2	9	3	Stabilized	55	Undivided Highway	Rolling	Mixed Bitumous
KY 819 MP 0.000 to MP 8.031										
0.000	8.031	8.031	2	9	2	Combination	55	Undivided Highway	Rolling	Mixed Bitumous
KY 1199 MP 0.000 to MP 1.505										
0.000	1.505	1.505	2	8	3	Combination	55	Undivided Highway	Rolling	Mixed Bitumous
KY 1943 MP 0.000 to MP 6.994										
0.000	3.417	3.417	2	9	3	Combination	55	Undivided Highway	Rolling	Mixed Bitumous
3.417	6.994	3.577	2	8	3	Stabilized	55	Undivided Highway	Rolling	Mixed Bitumous
KY 3169 MP 0.000 to MP 0.380										
0.000	0.380	0.380	2	9	3	Stabilized	55	Undivided Highway	Rolling	Mixed Bitumous
KY 3171 MP 0.000 to MP 2.350										
0.000	2.350	2.350	2	9	3	Stabilized	55	Undivided Highway	Rolling	Mixed Bitumous
KY 3305 MP 0.000 to MP 1.811										
0.000	0.850	0.850	2	9	3	Stabilized	55	Undivided Highway	Rolling	Mixed Bitumous
0.850	1.811	0.961	2	9	3	Stabilized	35	Undivided Highway	Rolling	Mixed Bitumous
Caldwell County										
I-24 MP 54.842 to MP 57.389										
54.842	57.389	2.547	4	12	10	Paved	65	Divided Highway	Rolling	High Rigid
WK 9001 MP 5.610 to MP 21.764										
5.610	9.963	4.353	4	12	10	Paved	65	Divided Highway	Rolling	High Flexible
9.963	10.293	0.330	4	12	10	Paved	65	Divided Highway	Rolling	Composite
10.293	21.764	11.471	4	12	10	Paved	65	Divided Highway	Rolling	High Flexible
US 641 MP 0.000 to MP 4.629										
0.000	2.177	2.177	2	10	4	Combination	55	Undivided Highway	Rolling	Composite
2.177	2.218	0.041	2	10	4	Combination	55	Undivided Highway	Flat	High Flexible
2.218	2.319	0.101	2	10	4	Combination	35	Undivided Highway	Flat	High Flexible
2.319	2.425	0.106	2	12	4	Combination	35	Undivided Highway	Flat	High Flexible
2.425	2.530	0.105	2	12	3	Curbed	35	Undivided Highway	Flat	High Flexible
2.530	2.877	0.347	2	12	4	Combination	35	Undivided Highway	Flat	High Flexible
2.877	3.308	0.431	2	11	4	Stabilized	35	Undivided Highway	Flat	High Flexible
3.308	3.505	0.197	2	11	4	Stabilized	55	Undivided Highway	Flat	High Flexible
3.505	4.629	1.124	2	11	4	Stabilized	55	Undivided Highway	Rolling	High Flexible
US 62 MP 0.000 to MP 5.931										
0.000	1.150	1.150	2	12	10	Combination	55	Undivided Highway	Flat	High Flexible
1.150	3.644	2.494	2	12	10	Combination	55	Undivided Highway	Rolling	High Flexible
3.644	3.666	0.022	2	12	10	Combination	55	Undivided Highway	Flat	High Flexible
3.666	4.390	0.724	2	12	10	Combination	55	Undivided Highway	Rolling	High Flexible
4.390	4.500	0.110	2	12	10	Combination	55	Divided Highway	Rolling	High Flexible
4.500	4.610	0.110	2	12	10	Combination	55	Divided Highway	Flat	High Flexible
4.610	5.200	0.590	2	12	10	Combination	55	Undivided Highway	Flat	High Flexible
5.200	5.300	0.100	2	12	10	Combination	45	Undivided Highway	Flat	High Flexible
5.300	5.780	0.480	2	12	10	Combination	35	Undivided Highway	Flat	High Flexible
5.780	5.931	0.151	2	12	10	Combination	35	Undivided Highway	Rolling	High Flexible

Table B-3. Geometric Characteristics (cont.)

Begin MP	End MP	Length (miles)	Number of Lanes	Lane Width (feet)	Shoulder Width (feet)	Shoulder Type	Speed Limit (mph)	Roadway Type	Terrain Type	Pavement Type
Caldwell County (cont.)										
US 62 MP 5.391 to MP 18.277										
5.931	5.932	0.001	2	12	10	Combination	35	Undivided Highway	Flat	High Flexible
5.932	6.250	0.318	2	12	3	Combination	35	Undivided Highway	Flat	High Flexible
6.250	6.664	0.414	2	12	2	Curbed	35	Undivided Highway	Flat	High Flexible
6.664	6.700	0.036	2	12	0	Curbed	35	Couplet	Flat	High Flexible
6.700	6.770	0.070	2	11	0	Curbed	35	Couplet	Flat	High Flexible
6.770	6.942	0.172	2	11	0	Curbed	25	Couplet	Flat	High Flexible
6.942	6.987	0.045	2	12	0	Curbed	25	Couplet	Flat	High Flexible
6.987	7.019	0.032	1	16	0	Curbed	25	Couplet	Flat	High Flexible
7.019	7.037	0.018	2	12	0	Curbed	25	Couplet	Flat	High Flexible
7.037	7.100	0.063	2	11	2	Curbed	25	Undivided Highway	Flat	High Flexible
7.100	7.122	0.022	2	11	2	Curbed	35	Undivided Highway	Flat	High Flexible
7.122	7.347	0.225	2	11	2	Curbed	35	Undivided Highway	Rolling	High Flexible
7.347	7.633	0.286	2	10	0	Curbed	35	Undivided Highway	Rolling	Mixed Bituminous
7.633	8.046	0.413	2	10	6	Combination	35	Undivided Highway	Rolling	High Flexible
8.046	8.466	0.420	2	10	6	Combination	45	Undivided Highway	Rolling	High Flexible
8.466	18.277	9.811	2	10	6	Combination	55	Undivided Highway	Rolling	High Flexible
US 62-1 MP 6.664 to MP 7.037										
6.664	7.037	0.373	2	12	0	Curbed	25	Urban Minor Arterial Street	Flat	High Flexible
KY 70 MP 0.000 to MP 5.411										
0.000	0.152	0.152	2	9	4	Stabilized	35	Undivided Highway	Flat	High Flexible
0.152	0.195	0.043	2	9	4	Stabilized	35	Undivided Highway	Rolling	High Flexible
0.195	0.492	0.297	2	9	4	Stabilized	55	Undivided Highway	Rolling	High Flexible
0.492	5.411	4.919	2	9	3	Stabilized	55	Undivided Highway	Rolling	High Flexible
KY 91 MP 13.905 to MP 23.389										
13.905	19.229	5.324	2	9	4	Combination	55	Undivided Highway	Rolling	High Flexible
19.229	23.389	4.16	2	9	4	Stabilized	55	Undivided Highway	Rolling	High Flexible
KY 293 MP 0.000 to MP 3.206										
0.000	3.206	3.206	2	9	4	Combination	55	Undivided Highway	Rolling	High Flexible
KY 902 MP 0.000 to MP 7.745										
0.000	7.745	7.745	2	9	3	Stabilized	55	Undivided Highway	Rolling	Mixed Bituminous
Crittenden County										
US 641 MP 0.000 to MP 7.494										
0.000	2.960	2.960	2	10	3	Combination	55	Undivided Highway	Rolling	High Flexible
2.960	3.630	0.670	2	10	3	Combination	45	Undivided Highway	Rolling	High Flexible
3.630	5.030	1.400	2	10	3	Combination	55	Undivided Highway	Rolling	High Flexible
5.030	5.430	0.400	2	12	10	Paved	55	Undivided Highway	Rolling	High Flexible
5.430	6.520	1.090	2	10	3	Combination	55	Undivided Highway	Rolling	High Flexible
6.520	6.750	0.230	2	10	3	Combination	45	Undivided Highway	Rolling	High Flexible
6.750	6.986	0.236	2	11	4	Stabilized	45	Undivided Highway	Rolling	High Flexible
6.986	7.210	0.224	2	11	4	Stabilized	35	Undivided Highway	Rolling	High Flexible
7.210	7.380	0.170	2	12	0	Curbed	35	Undivided Highway	Rolling	High Flexible
7.380	7.494	0.114	2	14	0	Curbed	35	Undivided Highway	Rolling	High Flexible
KY 295 MP 0.000 to MP 1.803										
0.000	1.610	1.610	2	9	3	Stabilized	55	Undivided Highway	Rolling	Mixed Bituminous
1.610	1.803	0.193	2	9	3	Stabilized	25	Undivided Highway	Rolling	Mixed Bituminous
KY 902 MP 0.000 to MP 6.116										
0.000	6.116	6.116	2	9	3	Stabilized	55	Undivided Highway	Rolling	Mixed Bituminous

Table B-4. Bridge Data

Bridge No.	Bridge MP	Bridge Length (feet)	Bridge Width (feet)	Horizontal Clearance (feet)	Sufficiency Rating	Structural Function	Feature Intersected
Lyon County							
I-24 MP 33.880 to MP 54.842							
B00035	37.929	206.000	43.200	39.200	76.800	Functionally Obsolete	P&L Railway
B00036	38.355	195.000	43.500	39.600	92.200	Functionally Obsolete	KY 93
B00037	39.505	305.000	43.200	39.700	95.400	--	US 62
B00039	40.836	185.000	43.200	39.200	96.500	--	Knob Creek
B00041	42.657	287.000	43.200	39.500	88.800	Functionally Obsolete	Port Authority Rd
B00044	46.651	407.000	41.800	38.500	97.000	--	Eddy Creek
B00048	53.417	142.000	42.500	38.500	97.000	--	Dry Fork Creek
WK 9001 MP 0.000 to MP 5.610							
B00049	0.001	272.000	38.000	34.000	96.300	--	I-24 @ MP 41.603
B00051	1.745	29.000	0.000	21.500	72.600	Functionally Obsolete	Riley Rd
B00052	3.408	221.000	52.700	38.000	93.900	--	P&L RR-Elkhorn Tavern Rd
B00030	3.702	226.000	39.800	38.300	92.300	--	US 62
US 641 MP 0.000 to MP 5.715							
B00001	0.512	153.000	33.700	28.300	58.300	--	P&L Railway
B00002	2.094	43.000	36.000	23.000	62.000	Functionally Obsolete	Branch of Skinframe Creek
B00003	2.533	79.000	26.000	23.000	51.000	Functionally Obsolete	Skinframe Creek
US 62 MP 0.000 to MP 14.183							
B00018	1.069	35.000	0.000	28.000	64.200	--	Flat Creek
B00017	3.690	33.000	0.000	30.000	74.700	--	Branch of Flat Creek
B00021	11.604	243.000	35.700	30.200	63.000	--	P&L Railway
KY 93 MP 7.576 to MP 20.394							
B00006	1.729	28.000	0.000	18.000	91.800	--	Fork of Dry Creek
B00005	1.953	62.000	22.000	19.000	64.100	Functionally Obsolete	Dry Creek
B00007	3.693	24.000	0.000	18.000	84.700	--	Levi Jones Branch
B00008	9.288	245.000	30.800	26.000	80.800	--	Eddy Creek
B00042	13.733	323.000	48.000	44.000	97.800	--	I-24 @ MP 43.711
B00025	14.488	36.000	0.000	22.000	84.800	--	Lick Creek
B00050	15.592	245.000	33.700	30.000	64.700	--	Western KY Parkway @ .855
B00010	18.900	26.000	0.000	17.000	73.300	--	Panther Creek
B00011	19.743	42.000	26.000	23.000	82.300	--	Panther Creek
KY 293 MP 0.000 to MP 3.820							
B00043	0.313	271.000	68.000	64.000	97.300	--	I-24 @ MP 44.693
B00053	1.374	71.000	31.300	28.000	90.500	--	Glass Creek
KY 295 MP 0.000 to MP 9.434							
B00038	2.840	234.000	31.200	27.800	79.500	--	I-24 @ MP 40.720
B00013	9.434	253.000	23.200	20.000	74.900	Functionally Obsolete	Livingston Creek
KY 373 MP 0.000 to MP 3.623							
B00015	0.706	26.000	0.000	24.000	96.600	--	Crab Creek
KY 810 MP 4.450 to MP 7.796							
B00033	5.510	216.000	29.200	28.200	82.600	--	I-24 @ MP 36.406
KY 819 MP 0.000 to MP 8.031							
B00031	2.440	42.000	24.100	22.900	96.000	--	Panther Creek
KY 1943 MP 0.000 to MP 6.994							
B00027	2.040	97.000	23.900	22.500	68.900	Structurally Deficient	Crab Creek
B00028	3.417	53.000	24.300	22.800	84.100	--	Skinframe Creek

Table B-4. Bridge Data (cont.)

Bridge No.	Bridge MP	Bridge Length (feet)	Bridge Width (feet)	Horizontal Clearance (feet)	Sufficiency Rating	Structural Function	Feature Intersected
Caldwell County							
WK 9001 MP 5.610 to MP 21.764							
B00028	6.618	28.000	0.000	76.000	74.400	Functionally Obsolete	Luther Sells Road
B00029	11.357	189.000	33.000	30.000	80.300	--	P&L Railway
B00030	14.572	26.000	0.000	76.000	76.900	--	Wiley Creek
B00031	15.825	31.000	0.000	76.000	76.900	--	Ward Creek
B00032	19.209	31.000	0.000	76.000	76.900	--	East Fork
B00033	21.752	207.000	33.000	30.000	80.200	--	Tradewater River
US 641 MP 0.000 to MP 4.629							
B00042	1.433	48.000	25.500	23.000	66.800	Functionally Obsolete	Easley Creek
B00071	4.620	98.000	43.500	40.300	81.300	--	Livingston Creek
US 62 MP 0.000 to MP 18.277							
B00070	9.779	40.000	33.000	30.000	89.900	--	Wiley Creek
B00013	12.113	96.000	28.000	26.000	72.400	--	Fork of Phelps Creek
B00073	14.758	47.000	33.000	30.200	89.400	--	East Fk Tradewater River
B00080	18.223	26.000	0.000	48.000	97.700	--	Fork-East Fork Creek
B00079	18.261	161.000	43.200	40.000	94.800	--	Tradewater River
KY 91 MP 13.905 to MP 23.389							
B00020	0.415	23.000	0.000	27.000	76.700	--	Cato Creek
B00019	3.892	27.000	0.000	29.000	90.400	--	Sinking Fork Creek
B00018	4.323	23.000	0.000	27.000	93.000	--	Friendship Branch
B00017	7.628	23.000	0.000	27.000	93.400	--	Goose Creek
B00037	12.235	318.000	33.000	30.000	75.100	--	Western Kentucky Parkway
B00077	13.924	21.000	0.000	40.000	97.600	--	Tudor Creek
B00081	14.570	77.000	44.500	40.800	97.600	--	Skinframe Creek
B00040	18.046	23.000	0.000	28.000	93.400	--	Fork of Skinframe Creek
B00041	22.326	26.000	0.000	25.000	68.700	--	Easley Creek
KY 293 MP 0.000 to MP 3.206							
B00007	7.341	263.000	31.500	28.000	76.800	--	Western Kentucky Parkway
B00008	8.156	32.000	0.000	22.000	95.200	--	Stevens Creek
B00009	8.771	28.000	0.000	22.000	80.500	--	Rocky Creek
B00010	12.890	23.000	0.000	22.000	81.000	--	Eagle Creek
B00050	17.912	429.000	24.000	22.400	67.700	--	Donaldson Creek
KY 902 MP 0.000 to MP 7.745							
B00067	11.579	24.000	0.000	26.100	100.000	--	Ootan Branch
Crittenden County							
US 641 MP 0.000 to MP 7.494							
B00061	5.361	80.000	48.100	45.000	81.300	--	Crooked Creek
KY 902 MP 0.000 to MP 6.116							
B00042	1.629	23.000	0.000	18.000	83.400	--	Larpin Branch
B00043	2.269	22.000	0.000	20.000	83.400	--	Unname Stream
B00044	3.345	40.000	0.000	20.000	68.000	--	Caldwell Spring Creek
B00045	4.943	99.000	24.000	20.000	79.600	--	Dry Fork Creek
B00046	6.100	152.000	24.000	20.000	77.200	--	Livingston Creek

Table B-5. Traffic Characteristics

Begin MP	End MP	Length (miles)	% Trucks	2003 ADT	2003 LOS	Annual Growth Rate	2025 ADT	2025 LOS
Lyon County								
I-24 MP 33.880 to MP 54.842								
33.880	39.505	5.625	33.6	25900	A	3.9%	59600	B
39.505	41.603	2.098	33.6	24400	A	3.9%	56100	B
41.603	44.693	3.090	26.9	16100	A	3.9%	37000	A
44.693	54.842	10.149	26.9	15400	A	3.9%	35400	A
WK 9001 MP 0.000 to MP 5.610								
0.000	3.702	3.702	30.3	10300	A	2.6%	18100	A
3.702	5.610	1.908	30.3	7610	A	2.6%	13400	A
US 641 MP 0.000 to MP 5.715								
0.000	0.108	0.108	16.8	3080	C	2.2%	5000	D
0.108	0.512	0.404	16.8	3080	D	2.2%	5000	D
0.512	2.668	2.156	16.8	3190	D	2.2%	5100	D
2.668	5.715	3.047	16.8	3200	D	2.2%	5200	D
US 62 MP 0.000 to MP 14.183								
0.000	0.200	0.200	14.7	4280	D	1.0%	5300	D
0.200	3.736	3.536	14.7	4280	C	1.0%	5300	D
3.736	4.765	1.029	14.7	6180	D	1.0%	7700	D
4.765	4.800	0.035	14.7	5270	D	1.0%	6600	D
4.800	6.096	1.296	14.7	5270	A	1.0%	6600	A
6.096	6.780	0.684	14.7	8180	A	1.0%	10200	A
6.780	8.148	1.368	13.2 ²	8930	A	1.0%	11100	A
8.148	8.670	0.522	13.2 ²	9920	A	1.0%	12300	A
8.670	8.919	0.249	13.2 ²	9920	A	1.0%	12300	B
8.919	9.340	0.421	11.7	7030	A	1.0%	8800	A
9.340	10.465	1.125	11.7	7030	D	1.0%	8800	D
10.465	10.525	0.060	11.6	4820	C	1.0%	6000	C
10.525	11.971	1.446	11.6	4820	B	1.0%	6000	C
11.971	12.213	0.242	11.6	4820	B	1.0%	6000	B
12.213	12.455	0.242	7.9 ¹	3740	A	1.0%	4700	B
12.455	14.183	1.728	7.9 ¹	3740	B	1.0%	4700	C
KY 93 MP 7.576 to MP 20.394								
7.576	10.458	2.882	7.9 ¹	1750	B	2.4%	3000	C
10.458	12.942	2.484	7.9 ¹	2250	B	2.4%	3800	C
12.942	13.536	0.594	7.9 ¹	3210	C	2.4%	5400	C
13.536	14.123	0.587	7.9 ¹	3580	B	2.4%	6000	C
14.123	14.784	0.661	7.9 ¹	3580	C	2.4%	6000	C
14.784	16.509	1.725	7.9 ¹	4130	C	2.4%	7000	C
16.509	17.421	0.912	9.4	1080	A	2.4%	1800	B
17.421	20.394	2.973	0.4	409	A	2.4%	700	A
KY 293 MP 0.000 to MP 3.820								
0.000	0.313	0.313	7	2990	B	2.0%	4600	C
0.313	0.712	0.399	7	7.0 ¹	A	2.0%	2100	B
0.712	2.476	1.764	7	1100	A	2.0%	1700	B
2.476	3.820	1.344	7	1040	A	2.0%	1600	B

Table B-5. Traffic Characteristics (cont.)

Begin MP	End MP	Length (miles)	% Trucks	2003 ADT	2003 LOS	Annual Growth Rate	2025 ADT	2025 LOS
Lyon County (cont.)								
KY 295 MP 0.000 to MP 9.434								
0.000	2.840	2.840	9.7 ¹	591	A	1.8%	900	A
2.840	3.694	0.854	9.7 ¹	1120	A	1.8%	1700	B
3.694	8.586	4.892	7.9 ¹	1090	A	1.8%	1600	B
8.586	9.434	0.848	7.9 ¹	723	A	1.8%	1100	A
KY 373 MP 0.000 to MP 3.623								
0.000	0.668	0.668	3.4	683	A	1.6%	1000	A
0.668	2.900	2.232	3.4	539	A	1.6%	800	A
2.900	3.623	0.723	3.4	3.4 ¹	A	1.6%	500	A
KY 730 MP 6.127 to MP 8.714								
6.127	8.714	2.587	9.7 ¹	910	A	1.0%	1100	A
KY 810 MP 4.450 to MP 7.796								
4.450	5.516	1.066	6.8	517	A	2.3%	800	A
5.516	7.796	2.280	6.8 ²	89	A	2.3%	100	A
KY 818 MP 1.766 to MP 6.292								
1.776	4.554	2.778	9.7 ¹	354	A	2.2%	600	A
4.554	6.292	1.738	9.7 ¹	531	A	2.2%	900	A
KY 819 MP 0.000 to 8.031								
0.000	2.440	2.440	4.8	44	A	1.0%	100	A
2.440	3.284	0.844	4.8	55	A	1.0%	100	A
3.284	5.784	2.500	4.8	68	A	1.0%	100	A
5.784	8.031	2.247	4.8	167	A	1.0%	200	A
KY 1199 MP 0.000 to MP 1.505								
0.000	1.505	1.505	5.0 ²	124	A	2.6%	200	A
KY 1943 MP 0.000 to MP 6.994								
0.000	2.558	2.558	9.7 ²	131	A	1.9%	200	A
2.558	4.415	1.857	9.7 ¹	169	A	1.9%	300	A
4.415	5.572	1.157	9.7 ¹	103	A	1.9%	200	A
5.572	6.994	1.422	9.7 ¹	198	A	1.9%	300	A
KY 3169 MP 0.000 to MP 0.380								
0.000	0.380	0.380	5.0 ²	405	A	2.6%	700	A
KY 3171 MP 0.000 to MP 2.350								
0.000	0.600	0.600	5.0 ²	380	A	2.1%	600	A
0.600	2.350	1.750	5.0 ²	247	A	2.1%	400	A
KY 3305 MP 0.000 to MP 1.811								
0.000	1.811	1.811	5.0 ²	476	A	2.6%	800	A

Table B-5. Traffic Characteristics (cont.)

Begin MP	End MP	Length (miles)	% Trucks	2003 ADT	2003 LOS	Annual Growth Rate	2025 ADT	2025 LOS
Caldwell County								
I-24 MP 54.842 to MP 57.389								
54.842	55.629	0.787	26.9	15400	A	3.5%	32800	B
55.629	57.389	1.760	26.9	15700	A	3.5%	33500	A
WK 9001 MP 5.610 to MP 21.764								
5.610	11.700	6.090	30.3	7610	A	2.0%	11800	A
11.700	13.116	1.416	30.3 ²	10600	A	2.0%	16400	A
13.116	21.764	8.648	27.2	8840	A	2.0%	13700	A
US 641 MP 0.000 to MP 4.629								
0.000	1.587	1.587	16.8	3330	D	2.2%	5400	D
1.587	2.218	0.631	16.8	3090	D	2.2%	5000	D
2.218	2.366	0.148	16.8	3090	E	2.2%	5000	E
2.366	2.530	0.164	16.8	3090	E	2.2%	5000	E
2.530	2.877	0.347	16.8	3090	E	2.2%	5000	E
2.877	3.308	0.431	16.8	3400	E	2.2%	5500	E
3.308	4.629	1.321	16.8	3400	D	2.2%	5500	D
US 62 MP 0.000 to MP 18.277								
0.000	1.150	1.150	7.9 ¹	3610	A	1.0%	4500	B
1.150	3.644	2.494	7.9 ¹	3640	B	1.0%	4500	B
3.644	3.666	0.022	7.9 ¹	5340	C	1.0%	6600	C
3.666	4.500	0.834	7.9 ¹	5340	C	2.5%	9100	D
4.500	5.780	1.280	7.9 ¹	14600	E	2.5%	25000	F
5.780	5.931	0.151	7.9 ¹	12900	D	2.5%	22100	F
5.931	6.530	0.599	7.9 ¹	14400	E	2.5%	24600	F
6.530	6.664	0.134	7.9 ¹	14900	E	2.5%	25500	F
6.664	7.037	0.373	7.9 ¹	7800	B	1.0%	9800	B
7.037	7.107	0.070	7.9 ¹	5760	C	1.0%	7200	C
7.107	7.345	0.238	7.9 ¹	6310	C	1.0%	7900	D
7.345	7.534	0.189	7.9 ¹	937	A	1.0%	1200	B
7.534	7.733	0.199	7.9 ¹	3500	C	1.0%	4400	C
7.733	8.250	0.517	7.9 ¹	3620	C	1.0%	4500	D
8.250	8.793	0.543	7.9 ¹	2420	B	1.0%	3000	C
8.793	9.908	1.115	7.9 ¹	1810	B	1.0%	2300	B
9.908	12.458	2.550	7.9 ¹	1200	B	1.0%	1500	B
12.458	16.150	3.692	7.9 ¹	907	A	1.0%	1100	A
16.150	18.277	2.127	7.9 ¹	1170	B	1.0%	1500	B
US 62-1 MP 6.664 to MP 7.037								
6.664	7.037	0.373	5.6 ¹	5150	B	1.0%	6400	B
KY 70 MP 0.000 to MP 5.411								
0	0.492	0.492	10.9	849	A	2.0%	1300	A
0.492	3.668	3.176	10.9	849	A	2.0%	1300	B
3.668	5.411	1.743	10.9	539	A	2.0%	800	A

Table B-5. Traffic Characteristics (cont.)

Begin MP	End MP	Length (miles)	% Trucks	2003 ADT	2003 LOS	Annual Growth Rate	2025 ADT	2025 LOS
Caldwell County (cont.)								
KY 91 MP 13.905 to MP 23.389								
13.905	15.776	1.871	9.3	2810	B	1.7%	4000	B
15.776	20.231	4.455	9.3	2480	B	1.7%	3600	B
20.231	23.389	3.158	9.3	2240	B	1.7%	3200	B
KY 293 MP 0.000 to MP 3.206								
0.000	3.206	3.206	7.9 ¹	1280	B	1.4%	1700	B
KY 902 MP 0.000 to MP 7.745								
0.000	2.090	2.090	6	420	A	1.0%	500	A
2.090	3.231	1.141	9.7 ¹	390	A	1.0%	500	A
3.231	6.141	2.910	9.7 ¹	198	A	1.0%	200	A
6.141	7.745	1.604	9.7 ¹	147	A	1.0%	200	A
Crittenden County								
US 641 MP 0.000 to MP 7.494								
0.000	1.175	1.175	16.8	3400	D	1.5%	4700	D
1.175	2.960	1.785	10.2	4070	D	1.5%	5600	E
2.960	3.188	0.228	10.2	4070	E	1.5%	5600	E
3.188	3.630	0.442	8.3 ¹	4200	E	1.5%	5800	E
3.630	5.030	1.400	8.3 ¹	4200	D	1.5%	5800	E
5.030	5.038	0.008	8.3 ¹	4200	D	1.5%	5800	D
5.038	5.430	0.392	8.3 ¹	4200	C	1.5%	5800	C
5.430	5.464	0.034	8.3 ¹	4200	D	1.5%	5800	D
5.464	5.708	0.244	8.3 ¹	4200	D	1.5%	5800	E
5.708	6.520	0.812	8.3 ¹	4940	D	1.5%	6800	E
6.520	6.986	0.466	8.3 ¹	4940	E	1.5%	6800	E
6.986	7.028	0.042	8.3 ¹	4940	E	1.5%	6800	E
7.028	7.494	0.466	8.3 ¹	6170	E	1.5%	8500	E
KY 295 MP 0.000 to MP 1.803								
0.000	1.803	1.803	9.2	684	A	1.2%	900	A
KY 902 MP 0.000 to MP 6.116								
0.000	6.116	6.116	9.7 ¹	151	A	1.3%	200	A

Source: KYTC Highway Information Systems (HIS) Data, 2003 and Wilbur Smith Associates, 2004

¹ Default value - 2002 Traffic Forecasting Report, KYTC Division of Multimodal Programs² Estimated value

Table B-6. Vehicle Crash Segment Analysis

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided Undivided	Rural Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				HMVM	Rates per HMVM				Critical Rate Factor
										Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
Lyon County																			
I-24	33.880	39.505	5.625	25900	4	Divided	Rural	49	61.599	1	15	56	72	2.13	0.47	7.05	26.33	33.85	0.55
	39.505	41.603	2.098	24400	4	Divided	Rural	49	70.527	0	13	31	44	0.75	0.00	17.39	41.48	58.87	0.83
	41.603	44.693	3.090	16100	4	Divided	Rural	49	70.846	2	7	34	43	0.73	2.75	9.64	46.81	59.20	0.84
	44.693	54.842	10.149	15400	4	Divided	Rural	49	61.156	1	27	65	93	2.28	0.44	11.83	28.49	40.76	0.67
WK 9001	0.000	3.702	3.702	10300	4	Divided	Rural	58	85.192	0	7	26	33	0.56	0.00	12.57	46.70	59.28	0.70
	3.702	5.610	1.908	7610	4	Divided	Rural	58	102.968	1	6	23	30	0.21	4.72	28.30	108.50	141.52	1.37
US 641	0.000	0.512	0.512	3080	2	Undivided	Rural	252	543.217	0	0	0	0	0.02	0.00	0.00	0.00	0.00	0.00
	0.512	2.668	2.156	3190	2	Undivided	Rural	252	386.027	0	5	13	18	0.10	0.00	49.79	129.46	179.26	0.46
	2.668	5.715	3.047	3200	2	Undivided	Rural	252	363.895	0	4	9	13	0.14	0.00	28.10	63.22	91.32	0.25
US 62	0.000	3.736	3.736	4280	2	Divided	Rural	252	338.776	1	10	29	40	0.23	4.28	42.83	124.22	171.34	0.51
	3.736	4.765	1.029	6180	2	Divided	Rural	252	391.590	0	4	10	14	0.09	0.00	43.08	107.71	150.79	0.39
	4.765	4.800	0.035	5270	2	Divided	Rural	252	1225.676	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
	4.800	6.096	1.296	5270	4	Divided	Rural	123	218.486	0	3	3	6	0.10	0.00	30.09	30.09	60.17	0.28
	6.096	6.780	0.684	8180	4	Divided	Rural	123	229.079	0	10	23	33	0.08	0.00	122.42	281.56	403.97	1.76
	6.780	8.148	1.368	8930	4	Divided	Rural	123	193.451	0	9	18	27	0.18	0.00	50.46	100.92	151.38	0.78
	8.148	8.919	0.771	9920	4	Divided	Rural	123	212.972	0	3	14	17	0.11	0.00	26.87	125.37	152.24	0.71
	8.919	9.340	0.421	7030	4	Divided	Rural	123	272.008	0	9	13	22	0.04	0.00	208.28	300.85	509.13	1.87
	9.340	10.350	1.010	7030	2	Undivided	Rural	252	383.831	0	9	11	20	0.10	0.00	86.82	106.11	192.93	0.50
	10.350	10.465	0.115	7030	2	Divided	Rural	252	670.755	0	3	2	5	0.01	0.00	254.16	169.44	423.61	0.63
	10.465	10.545	0.080	4820	2	Divided	Rural	252	885.820	0	1	2	3	0.01	0.00	177.63	355.25	532.88	0.60
	10.545	11.971	1.426	4820	2	Undivided	Rural	252	386.071	0	3	9	12	0.10	0.00	29.90	89.69	119.58	0.31
	11.971	12.213	0.242	4820	2	Divided	Rural	252	594.716	0	0	0	0	0.02	0.00	0.00	0.00	0.00	0.00
	12.213	12.455	0.242	3740	2	Divided	Rural	252	645.573	0	0	2	2	0.01	0.00	0.00	151.35	151.35	0.23
12.455	14.183	1.728	3740	2	Undivided	Rural	252	390.425	0	1	7	8	0.09	0.00	10.60	74.19	84.79	0.22	
KY 93	7.576	10.458	2.882	1750	2	Undivided	Rural	252	409.487	0	5	9	14	0.07	0.00	67.90	122.22	190.13	0.46
	10.458	12.942	2.484	2250	2	Undivided	Rural	252	401.281	0	8	7	15	0.08	0.00	98.04	85.78	183.82	0.46
	12.942	13.536	0.594	3210	2	Undivided	Rural	252	515.050	0	2	4	6	0.03	0.00	71.84	143.69	215.53	0.42
	13.536	14.784	1.248	3580	2	Undivided	Rural	252	419.776	0	1	3	4	0.07	0.00	15.33	45.99	61.32	0.15
	14.784	16.509	1.725	4130	2	Undivided	Rural	252	383.601	1	8	14	23	0.10	9.61	76.91	134.60	221.12	0.58
	16.509	17.421	0.912	1080	2	Undivided	Rural	252	627.774	0	1	1	2	0.01	0.00	69.54	69.54	139.08	0.22
	17.421	20.394	2.973	409	2	Undivided	Rural	252	587.074	0	1	2	3	0.02	0.00	56.33	112.66	168.99	0.29
KY 293	0.000	0.313	0.313	2990	2	Divided	Rural	252	638.427	0	1	3	4	0.01	0.00	73.19	219.56	292.75	0.46
	0.313	0.615	0.302	1360	2	Divided	Rural	252	863.458	0	0	2	2	0.01	0.00	0.00	333.53	333.53	0.39
	0.615	0.712	0.097	1360	2	Undivided	Rural	252	1443.383	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
	0.712	2.476	1.764	1100	2	Undivided	Rural	252	512.603	0	3	4	7	0.03	0.00	105.90	141.19	247.09	0.48
	2.476	3.820	1.344	1040	2	Undivided	Rural	252	562.756	0	1	2	3	0.02	0.00	49.00	98.00	147.01	0.26
KY 295	0.000	2.100	2.100	591	2	Undivided	Rural	252	583.379	1	1	0	2	0.02	55.19	55.19	0.00	110.37	0.19
	2.100	2.320	0.220	591	2	Divided	Rural	252	1453.960	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
	2.300	2.840	0.540	591	2	Undivided	Rural	252	958.381	0	0	1	1	0.00	0.00	0.00	214.62	214.62	0.22
	2.840	3.694	0.854	1120	2	Undivided	Rural	252	633.849	0	0	3	3	0.01	0.00	0.00	214.83	214.83	0.34
	3.694	8.586	4.892	1090	2	Undivided	Rural	252	404.982	0	5	3	8	0.08	0.00	64.23	38.54	102.76	0.25
	8.586	9.434	0.848	723	2	Undivided	Rural	252	740.075	0	1	5	6	0.01	0.00	111.72	558.58	670.29	0.91

Table B-6. Vehicle Crash Segment Analysis (cont.)

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided Undivided	Rural Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				HMVM	Rates per HMVM				Critical Rate Factor
										Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
KY 373	0.000	0.668	0.668	683	2	Undivided	Rural	252	828.100	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00
	0.668	2.900	2.232	539	2	Undivided	Rural	252	589.018	0	1	1	2	0.02	0.00	56.93	56.93	113.87	0.19
	2.900	3.623	0.723	357	2	Undivided	Rural	252	1050.823	0	0	1	1	0.00	0.00	0.00	265.36	265.36	0.25
KY 730	6.127	8.714	2.587	910	2	Undivided	Rural	252	487.119	0	3	1	4	0.03	0.00	87.28	29.09	116.38	0.24
KY 810	4.450	5.516	1.066	517	2	Undivided	Rural	252	770.015	0	0	2	2	0.01	0.00	0.00	248.56	248.56	0.32
	5.516	7.796	2.280	89	2	Undivided	Rural	252	1172.058	0	1	0	1	0.00	0.00	337.54	0.00	337.54	0.29
KY 818	1.776	4.554	2.778	354	2	Undivided	Rural	252	628.097	1	3	5	9	0.01	69.65	208.95	348.24	626.84	1.00
	4.554	6.292	1.738	531	2	Undivided	Rural	252	641.396	0	1	0	1	0.01	0.00	74.22	0.00	74.22	0.12
KY 819	0.000	2.440	2.440	44	2	Undivided	Rural	252	1603.865	0	1	1	2	0.00	0.00	637.98	637.98	1275.95	0.80
	2.440	3.284	0.844	55	2	Undivided	Rural	252	2560.541	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
	3.284	5.784	2.500	68	2	Undivided	Rural	252	1274.265	0	0	2	2	0.00	0.00	0.00	805.80	805.80	0.63
	5.784	8.031	2.247	167	2	Undivided	Rural	252	895.735	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00
KY 1199	0.000	1.505	1.505	124	2	Undivided	Rural	252	1218.922	0	0	1	1	0.00	0.00	0.00	367.02	367.02	0.30
KY 1943	0.000	2.558	2.558	131	2	Undivided	Rural	252	938.832	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
	2.558	4.415	1.857	169	2	Undivided	Rural	252	965.240	0	2	0	2	0.00	0.00	436.49	0.00	436.49	0.45
	4.415	5.572	1.157	103	2	Undivided	Rural	252	1519.731	0	0	1	1	0.00	0.00	0.00	574.75	574.75	0.38
	5.572	6.994	1.422	198	2	Undivided	Rural	252	1011.437	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
KY 3169	0.000	0.380	0.380	405	2	Undivided	Rural	252	1337.206	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
KY 3171	0.000	0.600	0.600	380	2	Undivided	Rural	252	1110.969	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
	0.600	2.350	1.750	247	2	Undivided	Rural	252	845.986	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00
KY 3305	0.000	1.811	1.811	476	2	Undivided	Rural	252	656.235	0	2	3	5	0.01	0.00	158.91	238.37	397.28	0.61
Caldwell County																			
I-24	54.842	55.629	0.787	15400	4	Divided	Rural	49	94.692	0	1	3	4	0.18	0.00	5.65	16.95	22.61	0.24
	55.629	57.389	1.760	15700	4	Divided	Rural	49	78.629	0	3	5	8	0.40	0.00	7.44	12.39	19.83	0.25
WK 9001	5.610	11.109	5.499	7610	4	Divided	Rural	58	83.917	0	15	24	39	0.61	0.00	24.55	39.28	63.83	0.76
	11.109	11.700	0.591	7610	4	Divided	Urban	104	214.133	0	0	1	1	0.07	0.00	0.00	15.23	15.23	0.07
	11.700	13.116	1.416	10600	4	Divided	Rural	58	102.190	0	1	12	13	0.22	0.00	4.56	54.76	59.32	0.58
	13.116	21.764	8.648	8840	4	Divided	Rural	58	77.017	1	10	44	55	1.12	0.90	8.96	39.42	49.28	0.64
US 641	0.000	1.587	1.587	3330	2	Undivided	Rural	252	405.698	0	2	6	8	0.08	0.00	25.92	77.76	103.69	0.26
	1.587	2.877	1.290	3090	2	Undivided	Rural	252	430.102	0	8	10	18	0.06	0.00	137.46	171.83	309.29	0.72
	2.877	4.629	1.752	3400	2	Undivided	Rural	252	396.413	0	5	19	24	0.09	0.00	57.49	218.47	275.96	0.70

Table B-6. Vehicle Crash Segment Analysis (cont.)

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided Undivided	Rural Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				HMVM	Rates per HMVM				Critical Rate Factor
										Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
US 62	0.000	1.150	1.150	3610	2	Undivided	Rural	252	426.348	0	2	5	7	0.06	0.00	33.00	82.49	115.49	0.27
	1.150	3.644	2.494	3640	2	Undivided	Rural	252	368.096	0	4	7	11	0.13	0.00	30.18	52.81	82.99	0.23
	3.644	4.390	0.746	5340	2	Undivided	Rural	252	430.159	0	3	4	7	0.06	0.00	51.58	68.77	120.36	0.28
	4.390	4.500	0.110	5340	2	Divided	Rural	252	751.875	0	1	0	1	0.01	0.00	116.60	0.00	116.60	0.16
	4.500	4.610	0.110	14600	2	Divided	Rural	252	540.377	0	0	0	0	0.02	0.00	0.00	0.00	0.00	0.00
	4.610	5.780	1.170	14600	2	Undivided	Rural	252	335.889	1	5	33	39	0.25	4.01	20.05	132.32	156.38	0.47
	5.780	5.931	0.151	12900	2	Undivided	Rural	252	512.067	0	4	11	15	0.03	0.00	140.65	386.79	527.44	1.03
	5.931	6.530	0.599	14400	2	Undivided	Rural	252	371.203	0	3	11	14	0.13	0.00	23.82	87.35	111.17	0.30
	6.530	6.664	0.134	14900	2	Undivided	Rural	252	508.663	0	1	4	5	0.03	0.00	34.30	137.22	171.52	0.34
	6.664	6.987	0.323	7800	2	Couplet	Rural	252	478.810	0	2	21	23	0.04	0.00	54.37	570.91	625.28	1.31
	6.987	7.019	0.032	7800	1	Couplet	Rural	163	845.011	0	0	1	1	0.00	0.00	0.00	274.41	274.41	0.32
	7.019	7.037	0.018	7800	2	Couplet	Rural	252	1399.126	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
	7.037	7.107	0.070	5760	2	Undivided	Rural	252	869.915	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00
	7.107	7.345	0.238	6310	2	Undivided	Rural	252	550.968	0	0	2	2	0.02	0.00	0.00	91.22	91.22	0.17
	7.345	7.534	0.189	937	2	Undivided	Rural	252	1249.591	0	0	3	3	0.00	0.00	0.00	1160.29	1160.29	0.93
	7.534	7.733	0.199	3500	2	Undivided	Rural	252	706.687	0	1	3	4	0.01	0.00	98.34	295.02	393.36	0.56
	7.733	8.250	0.517	3620	2	Undivided	Rural	252	517.682	0	2	3	5	0.03	0.00	73.19	109.79	182.99	0.35
	8.250	8.793	0.543	2420	2	Undivided	Rural	252	573.293	0	0	6	6	0.02	0.00	0.00	312.74	312.74	0.55
	8.793	9.908	1.115	1810	2	Undivided	Rural	252	507.197	1	0	3	4	0.03	33.94	0.00	101.82	135.75	0.27
	9.908	12.458	2.550	1200	2	Undivided	Rural	252	456.660	0	6	9	15	0.04	0.00	134.30	201.45	335.75	0.74
	12.458	16.150	3.692	907	2	Undivided	Rural	252	447.169	1	3	10	14	0.05	20.45	61.36	204.54	286.36	0.64
	16.150	18.277	2.127	1170	2	Undivided	Rural	252	480.294	0	2	6	8	0.04	0.00	55.05	165.14	220.18	0.46
KY 70	0.000	3.668	3.668	849	2	Undivided	Rural	252	454.776	0	1	3	4	0.05	0.00	21.99	65.98	87.98	0.19
	3.668	5.411	1.743	539	2	Undivided	Rural	252	637.615	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00
KY 91	13.905	15.776	1.871	2810	2	Undivided	Rural	252	406.112	0	8	9	17	0.08	0.00	104.22	117.25	221.47	0.55
	15.776	20.231	4.455	2480	2	Undivided	Rural	252	356.917	0	8	12	20	0.16	0.00	49.59	74.39	123.99	0.35
	20.231	23.389	3.158	2240	2	Undivided	Rural	252	384.086	0	7	8	15	0.10	0.00	67.78	77.46	145.24	0.38
KY 293	0.000	3.206	3.206	1280	2	Undivided	Rural	252	427.409	1	6	2	9	0.06	16.69	100.14	33.38	150.22	0.35
KY 902	0.000	2.090	2.090	420	2	Undivided	Rural	252	652.234	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00
	2.090	3.231	1.141	390	2	Undivided	Rural	252	836.295	0	1	0	1	0.01	0.00	153.92	0.00	153.92	0.18
	3.231	6.141	2.910	198	2	Undivided	Rural	252	757.289	0	1	3	4	0.01	0.00	118.87	356.62	475.50	0.63
	6.141	7.745	1.604	147	2	Undivided	Rural	252	1094.205	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
Crittenden County																			
US 641	0.000	1.175	1.175	3400	2	Undivided	Rural	252	429.894	0	10	16	26	0.06	0.00	171.45	274.32	445.76	1.04
	1.175	3.188	2.013	4070	2	Undivided	Rural	252	374.416	0	14	18	32	0.12	0.00	117.04	150.48	267.52	0.71
	3.188	5.708	2.520	4200	2	Undivided	Rural	252	359.262	0	12	16	28	0.15	0.00	77.66	103.54	181.20	0.50
	5.708	7.028	1.320	4940	2	Undivided	Rural	252	389.783	0	4	15	19	0.10	0.00	42.02	157.56	199.57	0.51
	7.028	7.494	0.466	6170	2	Undivided	Rural	252	463.499	0	3	7	10	0.04	0.00	71.47	166.75	238.22	0.51
KY 295	0.000	1.803	1.803	684	2	Undivided	Rural	252	584.519	0	0	0	0	0.02	0.00	0.00	0.00	0.00	0.00
KY 902	0.000	7.745	7.745	151	2	Undivided	Rural	252	594.230	0	0	0	0	0.02	0.00	0.00	0.00	0.00	0.00

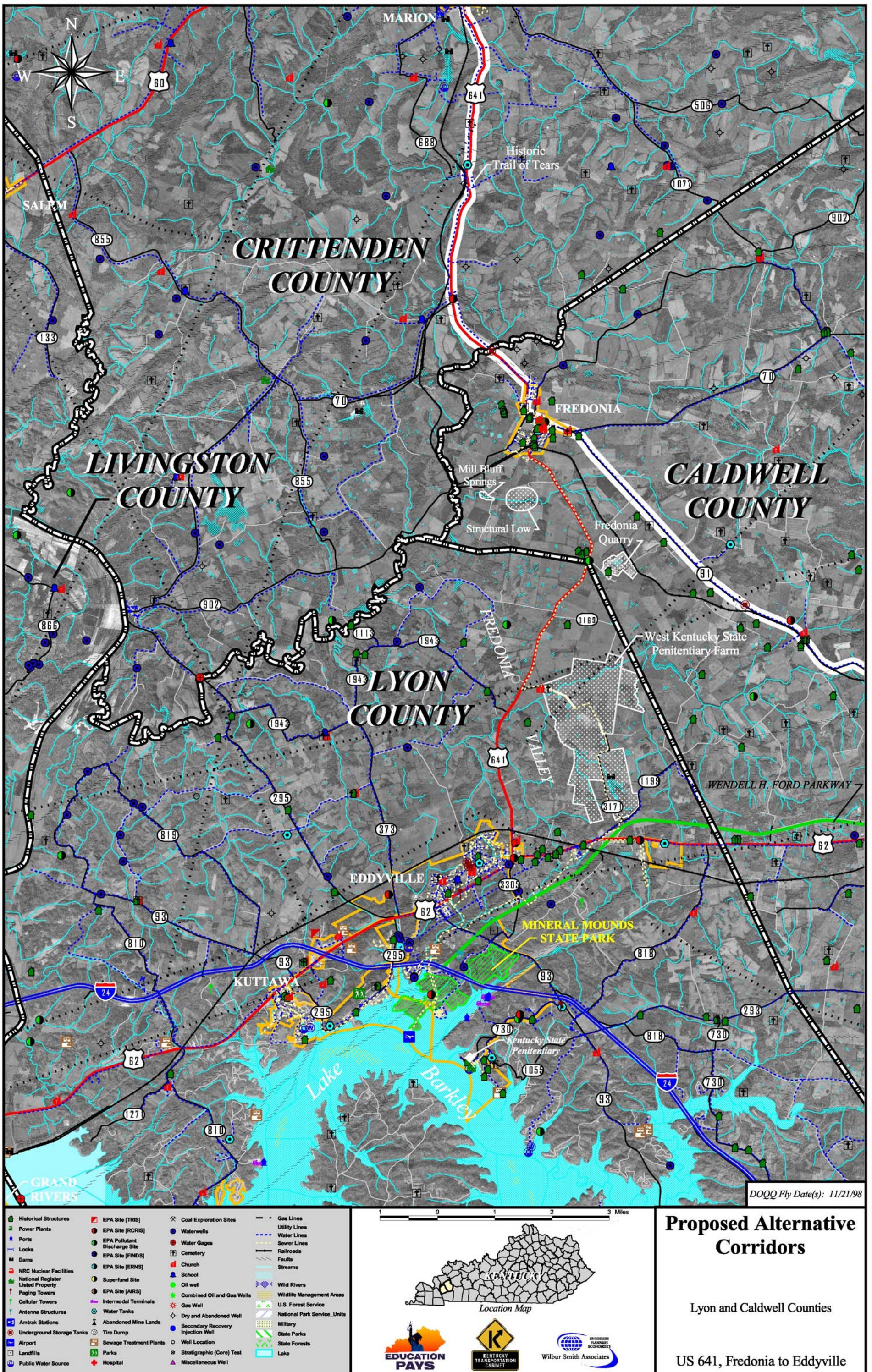
Table B-7. Vehicle Crash Spot Analysis

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided/ Undivided	Rural/ Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				MVM	Rates per MVM				Critical Rate Factor
										Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
Lyon County																			
I-24	34.000	34.100	0.100	25900	4	Divided	Rural	0.05	0.157	0	2	6	8	37.81	0.00	0.05	0.16	0.21	1.35
	35.289	35.389	0.100	25900	4	Divided	Rural	0.05	0.157	0	2	3	5	37.81	0.00	0.05	0.08	0.13	0.84
	36.500	36.600	0.100	25900	4	Divided	Rural	0.05	0.157	0	2	2	4	37.81	0.00	0.05	0.05	0.11	0.67
	36.900	37.000	0.100	25900	4	Divided	Rural	0.05	0.157	1	1	2	4	37.81	0.03	0.03	0.05	0.11	0.67
	37.279	37.379	0.100	25900	4	Divided	Rural	0.05	0.157	0	1	3	4	37.81	0.00	0.03	0.08	0.11	0.67
	38.000	38.100	0.100	25900	4	Divided	Rural	0.05	0.157	0	1	4	5	37.81	0.00	0.03	0.11	0.13	0.84
	38.450	38.550	0.100	25900	4	Divided	Rural	0.05	0.157	0	2	3	5	37.81	0.00	0.05	0.08	0.13	0.84
	39.467	39.567	0.100	25150	4	Divided	Rural	0.05	0.159	0	4	5	9	36.72	0.00	0.11	0.14	0.25	1.54
	39.700	39.800	0.100	24400	4	Divided	Rural	0.05	0.161	0	3	1	4	35.62	0.00	0.08	0.03	0.11	0.70
	39.905	40.005	0.100	24400	4	Divided	Rural	0.05	0.161	0	1	8	9	35.62	0.00	0.03	0.22	0.25	1.57
	40.038	40.138	0.100	24400	4	Divided	Rural	0.05	0.161	0	2	2	4	35.62	0.00	0.06	0.06	0.11	0.70
	40.200	40.300	0.100	24400	4	Divided	Rural	0.05	0.161	0	1	3	4	35.62	0.00	0.03	0.08	0.11	0.70
	41.500	41.600	0.100	24400	4	Divided	Rural	0.05	0.161	0	0	7	7	35.62	0.00	0.00	0.20	0.20	1.22
	42.000	42.100	0.100	16100	4	Divided	Rural	0.05	0.190	0	1	8	9	23.51	0.00	0.04	0.34	0.38	2.01
	42.148	42.248	0.100	16100	4	Divided	Rural	0.05	0.190	0	1	3	4	23.51	0.00	0.04	0.13	0.17	0.90
	42.957	43.057	0.100	16100	4	Divided	Rural	0.05	0.190	0	1	6	7	23.51	0.00	0.04	0.26	0.30	1.57
	44.693	44.793	0.100	15400	4	Divided	Rural	0.05	0.194	0	1	5	6	22.48	0.00	0.04	0.22	0.27	1.38
	44.900	45.000	0.100	15400	4	Divided	Rural	0.05	0.194	0	2	2	4	22.48	0.00	0.09	0.09	0.18	0.92
	45.200	45.300	0.100	15400	4	Divided	Rural	0.05	0.194	0	1	3	4	22.48	0.00	0.04	0.13	0.18	0.92
	46.300	46.400	0.100	15400	4	Divided	Rural	0.05	0.194	0	3	1	4	22.48	0.00	0.13	0.04	0.18	0.92
	46.900	47.000	0.100	15400	4	Divided	Rural	0.05	0.194	0	3	5	8	22.48	0.00	0.13	0.22	0.36	1.84
	47.019	47.119	0.100	15400	4	Divided	Rural	0.05	0.194	0	0	4	4	22.48	0.00	0.00	0.18	0.18	0.92
	49.981	50.081	0.100	15400	4	Divided	Rural	0.05	0.194	0	3	4	7	22.48	0.00	0.13	0.18	0.31	1.61
	50.901	51.001	0.100	15400	4	Divided	Rural	0.05	0.194	0	1	3	4	22.48	0.00	0.04	0.13	0.18	0.92
	53.400	53.500	0.100	15400	4	Divided	Rural	0.05	0.194	0	2	3	5	22.48	0.00	0.09	0.13	0.22	1.15
WK 9001	0.000	0.100	0.100	10300	4	Divided	Rural	0.06	0.256	0	1	5	6	15.04	0.00	0.07	0.33	0.40	1.56
	3.626	3.726	0.100	8955	4	Divided	Rural	0.06	0.273	0	0	6	6	13.07	0.00	0.00	0.46	0.46	1.68
	4.000	4.100	0.100	7610	4	Divided	Rural	0.06	0.294	0	0	8	8	11.11	0.00	0.00	0.72	0.72	2.45
	5.000	5.100	0.100	7610	4	Divided	Rural	0.06	0.294	0	1	4	5	11.11	0.00	0.09	0.36	0.45	1.53
	5.200	5.300	0.100	7610	4	Divided	Rural	0.06	0.294	0	2	2	4	11.11	0.00	0.18	0.18	0.36	1.22
	5.510	5.610	0.100	7610	4	Divided	Rural	0.06	0.294	0	1	4	5	11.11	0.00	0.09	0.36	0.45	1.53
US 62	0.000	0.100	0.100	4280	2	Divided	Rural	0.25	0.845	0	1	5	6	6.25	0.00	0.16	0.80	0.96	1.14
	2.700	2.800	0.100	4280	2	Divided	Rural	0.25	0.845	0	2	2	4	6.25	0.00	0.32	0.32	0.64	0.76
	3.170	3.270	0.100	4280	2	Divided	Rural	0.25	0.845	0	1	3	4	6.25	0.00	0.16	0.48	0.64	0.76
	3.679	3.779	0.100	5230	2	Divided	Rural	0.25	0.782	0	4	5	9	7.64	0.00	0.52	0.65	1.18	1.51
	4.100	4.200	0.100	6180	2	Divided	Rural	0.25	0.734	0	1	4	5	9.02	0.00	0.11	0.44	0.55	0.75
	4.665	4.765	0.100	6180	2	Divided	Rural	0.25	0.734	0	2	3	5	9.02	0.00	0.22	0.33	0.55	0.75
	6.001	6.101	0.100	6000	4	Divided	Rural	0.12	0.479	0	2	3	5	8.76	0.00	0.23	0.34	0.57	1.19
	6.450	6.550	0.100	8180	4	Divided	Rural	0.12	0.420	0	1	8	9	11.94	0.00	0.08	0.67	0.75	1.79
	6.580	6.680	0.100	8180	4	Divided	Rural	0.12	0.420	0	4	6	10	11.94	0.00	0.33	0.50	0.84	1.99
	6.700	6.800	0.100	8555	4	Divided	Rural	0.12	0.413	0	5	8	13	12.49	0.00	0.40	0.64	1.04	2.52
	8.100	8.200	0.100	9425	4	Divided	Rural	0.12	0.397	0	4	5	9	13.76	0.00	0.29	0.36	0.65	1.65
	8.881	8.981	0.100	8475	4	Divided	Rural	0.12	0.414	0	1	9	10	12.37	0.00	0.08	0.73	0.81	1.95
	9.000	9.100	0.100	7030	4	Divided	Rural	0.12	0.447	0	5	9	14	10.26	0.00	0.49	0.88	1.36	3.05
	9.500	9.600	0.100	7030	2	Undivided	Rural	0.25	0.701	0	4	2	6	10.26	0.00	0.39	0.19	0.58	0.83
	9.828	9.928	0.100	7030	2	Undivided	Rural	0.25	0.701	0	2	3	5	10.26	0.00	0.19	0.29	0.49	0.70
	9.981	10.081	0.100	7030	2	Undivided	Rural	0.25	0.701	0	0	5	5	10.26	0.00	0.00	0.49	0.49	0.70
	10.400	10.500	0.100	5925	2	Divided	Rural	0.25	0.746	0	4	3	7	8.65	0.00	0.46	0.35	0.81	1.09
	10.600	10.700	0.100	4820	2	Undivided	Rural	0.25	0.807	0	1	3	4	7.04	0.00	0.14	0.43	0.57	0.70

Table B-7. Vehicle Crash Spot Analysis

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Divided/ Undivided	Rural/ Urban	Avg. Veh. Crash Rate	Critical Veh. Crash Rate	Vehicle Crashes				MVM	Rates per MVM				Critical Rate Factor
										Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
Lyon County (cont.)																			
KY 93	12.942	13.042	0.100	3210	2	Undivided	Rural	0.25	0.952	0	4	3	7	4.69	0.00	0.85	0.64	1.49	1.57
	16.400	16.500	0.100	4130	2	Undivided	Rural	0.25	0.857	0	4	3	7	6.03	0.00	0.66	0.50	1.16	1.35
KY 293	0.000	0.100	0.100	2990	2	Divided	Rural	0.25	0.981	0	1	3	4	4.37	0.00	0.23	0.69	0.92	0.93
Caldwell County																			
WK 9001	9.991	10.091	0.100	7610	4	Divided	Rural	0.06	0.294	0	3	3	6	11.11	0.00	0.27	0.27	0.54	1.83
	13.016	13.116	0.100	10600	4	Divided	Rural	0.06	0.253	0	1	3	4	15.48	0.00	0.06	0.19	0.26	1.02
	16.000	16.100	0.100	8840	4	Divided	Rural	0.06	0.274	0	2	3	5	12.91	0.00	0.15	0.23	0.39	1.41
US 641	2.700	2.800	0.100	3090	2	Undivided	Rural	0.25	0.967	0	1	4	5	4.51	0.00	0.22	0.89	1.11	1.15
	3.000	3.100	0.100	3400	2	Undivided	Rural	0.25	0.929	0	1	4	5	4.96	0.00	0.20	0.81	1.01	1.08
	3.200	3.300	0.100	3400	2	Undivided	Rural	0.25	0.929	0	2	6	8	4.96	0.00	0.40	1.21	1.61	1.74
	3.302	3.402	0.100	3400	2	Undivided	Rural	0.25	0.929	0	1	4	5	4.96	0.00	0.20	0.81	1.01	1.08
US 62	5.055	5.155	0.100	14600	2	Undivided	Rural	0.25	0.552	0	2	9	11	21.32	0.00	0.09	0.42	0.52	0.93
	5.400	5.500	0.100	14600	2	Undivided	Rural	0.25	0.552	1	3	5	9	21.32	0.05	0.14	0.23	0.42	0.76
	5.600	5.700	0.100	14600	2	Undivided	Rural	0.25	0.552	0	1	11	12	21.32	0.00	0.05	0.52	0.56	1.02
	5.722	5.822	0.100	13750	2	Undivided	Rural	0.25	0.562	0	2	7	9	20.08	0.00	0.10	0.35	0.45	0.80
	5.898	5.998	0.100	13650	2	Undivided	Rural	0.25	0.564	0	2	10	12	19.93	0.00	0.10	0.50	0.60	1.07
	6.031	6.131	0.100	14400	2	Undivided	Rural	0.25	0.555	0	1	6	7	21.02	0.00	0.05	0.29	0.33	0.60
	6.600	6.700	0.100	7800	2	Couplet	Rural	0.25	0.676	0	1	7	8	11.39	0.00	0.09	0.61	0.70	1.04
	6.720	6.820	0.100	7800	2	Couplet	Rural	0.25	0.676	0	0	8	8	11.39	0.00	0.00	0.70	0.70	1.04
	6.864	6.964	0.100	7800	2	Couplet	Rural	0.25	0.676	0	1	8	9	11.39	0.00	0.09	0.70	0.79	1.17
	6.987	7.087	0.100	7800	1	Couplet	Rural	0.15	0.490	0	1	3	4	11.39	0.00	0.09	0.26	0.35	0.72
	7.300	7.400	0.100	3624	2	Undivided	Rural	0.25	0.904	0	0	4	4	5.29	0.00	0.00	0.76	0.76	0.84
9.996	10.096	0.100	1200	2	Undivided	Rural	0.25	1.508	0	2	2	4	1.75	0.00	1.14	1.14	2.28	1.51	
KY 91	20.318	20.418	0.100	2240	2	Undivided	Rural	0.25	1.115	0	2	2	4	3.27	0.00	0.61	0.61	1.22	1.10
	23.289	23.389	0.100	2240	2	Undivided	Rural	0.25	1.115	0	2	2	4	3.27	0.00	0.61	0.61	1.22	1.10
Crittenden County																			
US 641	0.000	0.100	0.100	3400	2	Undivided	Rural	0.25	0.929	0	1	4	5	4.96	0.00	0.20	0.81	1.01	1.08
	0.500	0.600	0.100	3400	2	Undivided	Rural	0.25	0.929	0	2	2	4	4.96	0.00	0.40	0.40	0.81	0.87
	0.800	0.900	0.100	3400	2	Undivided	Rural	0.25	0.929	0	2	4	6	4.96	0.00	0.40	0.81	1.21	1.30
	1.000	1.100	0.100	3400	2	Undivided	Rural	0.25	0.929	0	2	3	5	4.96	0.00	0.40	0.60	1.01	1.08
	2.300	2.400	0.100	4070	2	Undivided	Rural	0.25	0.863	0	1	3	4	5.94	0.00	0.17	0.50	0.67	0.78
	2.512	2.612	0.100	4070	2	Undivided	Rural	0.25	0.863	0	3	3	6	5.94	0.00	0.50	0.50	1.01	1.17
	2.900	3.000	0.100	4070	2	Undivided	Rural	0.25	0.863	0	2	2	4	5.94	0.00	0.34	0.34	0.67	0.78
	3.900	4.000	0.100	4200	2	Undivided	Rural	0.25	0.852	0	1	3	4	6.13	0.00	0.16	0.49	0.65	0.77
	5.661	5.761	0.100	4570	2	Undivided	Rural	0.25	0.824	0	5	1	6	6.67	0.00	0.75	0.15	0.90	1.09
	5.800	5.900	0.100	4940	2	Undivided	Rural	0.25	0.799	0	0	4	4	7.21	0.00	0.00	0.55	0.55	0.69
	6.700	6.800	0.100	4940	2	Undivided	Rural	0.25	0.799	0	1	4	5	7.21	0.00	0.14	0.55	0.69	0.87
	7.437	7.537	0.100	6170	2	Undivided	Rural	0.25	0.735	0	2	6	8	9.01	0.00	0.22	0.67	0.89	1.21

Figure B-1. Environmental Footprint



NOTE: Archaeological sites and locations of threatened / endangered species are not shown due to the sensitive nature of the data

Printed: 12/17/04



PUBLIC NOTICE



The Kentucky Transportation Cabinet (KYTC), in cooperation with the Federal Highway Administration (FHWA), is issuing this notice to advise the public that the KYTC is initiating a study for the following proposed highway project:

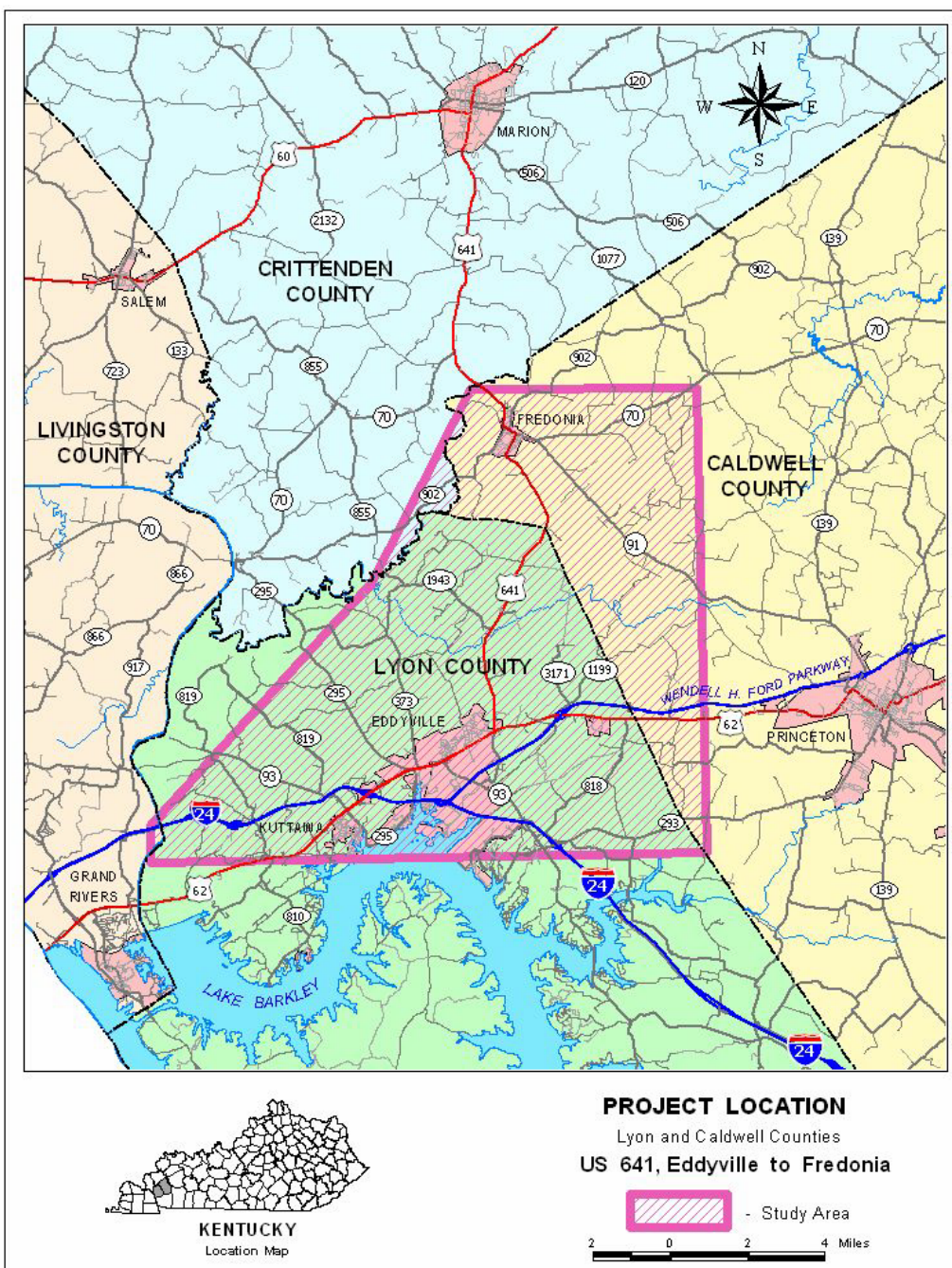
US 641
Reconstruction or Relocation of US 641 from Eddyville to Fredonia
In
Lyon and Caldwell Counties, Kentucky

This study will address alternatives and issues related to the development of a reconstructed or relocated US 641 highway between Eddyville in Lyon County and Fredonia in Caldwell County. The new route will complete an improved connection between Eddyville, which has direct access to I-24 and the Wendell H. Ford Western Kentucky Parkway, and Marion and US 60 in Crittenden County. It will provide regional access to the National Truck Network and the National Highway System, stimulate economic growth in the region, and address safety and capacity concerns.

During this study, comments will be gathered from appropriate federal, state, and local agencies, as well as other interested persons and the general public, in accordance with requirements set forth in the National Environmental Policy Act (NEPA) of 1969 and subsequent federal regulations and guidelines developed by the Executive Office of the President's Council on Environmental Quality and the United States Department of Transportation for the implementation of the NEPA process.

This study will include a scoping process for the early identification of potential alternatives for and environmental issues related to the proposed project. At this time, the level of environmental documentation that will ultimately be prepared is not known. However, if an Environmental Impact Statement (EIS) is prepared for the proposed project in the future, the information gained through the scoping process in this planning study may be used as input to the scoping process for the development of that EIS. If an EIS is prepared in the future, written comments on the scope of alternatives and impacts will still be considered at that time, after the filing of the Notice of Intent (NOI).

Comments, questions, or expressions of interest for the proposed project should be directed in writing to Annette Coffey, P.E., Director, Division of Planning (A-2), Kentucky Transportation Cabinet, 125 Holmes Street, Frankfort, KY 40622 or Evan Wisniewski, Federal Highway Administration, 330 West Broadway, Frankfort, KY 40601.



MINUTES

Project Scoping Meeting: Alternatives Study Lyon-Caldwell Counties

Relocate/Reconstruct US 641 from Eddyville in Lyon County to Fredonia in Caldwell County

June 23, 2003

1:00 p.m. CDT

Highway District 1 Office, Paducah, Kentucky

A project team meeting for the US 641 Alternatives Study in Lyon and Caldwell Counties was conducted on Monday, June 23, 2003 in Paducah, Kentucky. The purpose of the meeting was to discuss the project history and purpose, scope of work and related activities, preliminary data/exhibits, project issues, and public involvement needs and ideas. Participants at the meeting included representatives from KYTC Districts 1 and 2, Pennyriple Area Development District (PADD), KYTC Central Office, and consultant staff from Wilbur Smith Associates (WSA). Individual attendees at the meeting included the following:

Craig Morris	Pennyriple Area Development District
Tim Choate	KYTC, District 1, TEBM, Pre-Construction
Allen Thomas	KYTC, District 1, Planning
Jeff Thompson	KTYC, District 1, Planning
Chris Kuntz	KYTC, District 1, Design
Johnny Wall	KYTC, District 1, Utilities
Everett Green	KYTC, District 2, TEBM, Pre-Construction
Kevin McClearn	KYTC, District 2, Pre-Construction/Planning
Nick Hall	KYTC, District 2, Planning
Stephen Hoefler	KYTC Central Office, Highway Design
Jim Wilson	KYTC Central Office, Planning
Brad Johnson	Wilbur Smith Associates
Carl Dixon	Wilbur Smith Associates

A summary of the key comments and discussion items for this meeting is provided below in the order of the meeting agenda. A copy of the agenda for the meeting is attached to this document.

1) Welcome and Introductions

Jim Wilson began the meeting by asking everyone to introduce themselves.

2) Purpose of Meeting

Jim Wilson stated that the purpose of the project was to extend the section of US 641 currently in design from the Fredonia area to Eddyville. Aerial photography of the southern terminus of the current priority project was provided for exhibit. That section is currently in Phase II Design and the work is being done by Florence and Hutcheson.

3) Project History

Tim Choate continued the discussion by providing a history of the project. He said at first, money was provided for a northern bypass of Marion. Both northern and southern bypass options were explored, but neither was favored by the public. Local support was for an improved connection to Marion, not a bypass around the city. As a result, funding was switched from the Marion Bypass to the US 641 improvement project. The first priority segment is currently in Phase II Design. Tim described the roadway as tying into Marion to the south, following a path east of existing US 641 and terminating northwest of Fredonia near Livingston Creek in Caldwell County.

Tim identified traffic forecasts for the 2027 No Build Alternate to be 6,700 ADT and for the 2027 Build Alternate to be 5,300 ADT. He went on to say that working with Rob Bostrom and the Kentucky Statewide Traffic Model, they determined as many as 10,000 trips could be diverted from the Edward T. Breathitt Parkway and Wendell H. Ford Parkway when improvements to US 60 are completed from Marion to Henderson, if combined with US 641 improvements.

Tim noted that the Pennyryle Area Development District had conducted a study of the US 641 corridor and one of the recommended corridors from that study is being closely followed in the initial segment.

A question was raised regarding the descriptions from the Six Year Highway Plan for the US 641 project. It was agreed that the segment descriptions were confusing and should be clarified in future updates to the Six Year Highway Plan so as to not omit a segment of roadway. As it stands, the project is being handled in two phases although three phases are described in the Six Year Plan.

Carl Dixon asked about the availability of aerial coverage for the US 641 corridor. Some coverage is available west of Fredonia, but does not cover Fredonia, south of Fredonia, and the rest of study area.

Tim noted that the northern section is being designed as a four-lane, partially controlled access facility with a 60-foot median. It was noted that local proponents for the project are expecting a four-lane roadway, but traffic forecasts could only justify a two-lane facility (on four-lane right-of-way) at present. No one was aware if a four-lane facility had been promised to the local community and Jim was going to check into this further.

4) Scope of Work

Carl Dixon briefly reviewed Wilbur Smith Associates' Scope of Work. He noted that Palmer Engineering and Qore would be subconsultants handling the environmental and geotechnical overviews. He confirmed with Craig Morris that PADD would assist with the environmental justice data collection and analysis by providing demographic data on minorities and economically disadvantaged persons. In response to a comment from District 2, it was confirmed that, as part of the scope of work, WSA would consider US 60 from Marion to Henderson as an improved section.

Carl reviewed the project schedule, noting that the Public Involvement Plan was due one week following the Project Team Meeting. At present there are two rounds of meetings with local officials/stakeholders and two rounds of public meetings, all to be

held in Fredonia and Eddyville. It was decided that the first Local Officials/Stakeholders Meetings should be scheduled before July 21st. Jim Wilson indicated that he would coordinate with Craig Morris to set up these meetings. Carl said that a preliminary draft is due by January 2004, and the final report is to be completed by May 2004.

5) Preliminary Data/Exhibits

Brad Johnson reviewed the handouts distributed to everyone at the beginning of the meeting. He noted the importance of better defining the study area and identifying mapping errors or omissions. Data presented was noted as preliminary and would be further defined and verified as the project progresses.

The study area was discussed, and the approximate boundaries were decided as follows. The northernmost point of the study boundary would be the southern terminus of the current design project, north of Fredonia. To the west, the study boundary would parallel the Livingston County line to the Lyon-Marshall County line and extend southward past I-24. The southern boundary would parallel I-24 about 1,000 feet or so south of the interstate. The eastern boundary would be located on the WK Parkway about 1 or 2 miles into Caldwell County and it would head straight northward to somewhere east of Fredonia.

District 1 staff brought to the consultant's attention an anticipated high accident segment at Bennett's Curve on US 641 in Fredonia which was not showing up on the "Critical Rate Factors for Highway Crashes" map. They, along with Craig Morris, thought that the boundary for Mineral Mounds State Park was incorrect. Craig Morris agreed to send WSA a map verifying the boundary. It was also noted that karst topography exists west of US 641, and Tim noted that this is one of the reasons that existing US 641 is located on the east side of Eddyville.

6) Project Issues

Craig Morris presented a concept idea for a large industrial project that PADD and several local officials have been pursuing. If fully realized, the project would be a 500 to 800-acre "super site" intended for one user such as a major automotive plant that could employ as many as 2,000 employees. The primary portion of land would be acquired from the northern part of the West Kentucky Farm Center which is owned and operated by the Commonwealth of Kentucky Department of Corrections. Two other adjoining sites are owned by out-of-state property owners. The site is east of US 641 and has access to all necessary utilities. The site is also near the Fredonia Valley Railroad which interchanges with the Paducah and Louisville Railway. A draft feasibility study has been conducted by PADD. Over the next couple of months, PADD should have a better idea of whether the project will be carried forward.

Following discussion on the industrial facility, Tim Choate presented a concept plan for a new Interstate 66/69 route north of Eddyville. This plan would address geometric design deficiencies of the existing Wendell Ford Parkway and I-24 interchange. If US 641 tied into this route, then the overall concept plan would address the desire for US 641 to tie into I-24. To help address concerns of Eddyville locals, the existing portion of the Wendell Ford Parkway between I-24 and the northern interstate bypass could be turned into an access-by-permit section of roadway allowing for future development.

A short discussion followed related to the project goals. They were identified as follows:

- 1) Provide connectivity between I-24 and US 60;
- 2) Provide regional access to the National Truck Network and National Highway System (since Marion is not currently served by a legal route for 102-inch wide trucks);
- 3) Stimulate economic development in the region; and,
- 4) Address safety and capacity concerns.

Carl Dixon asked if anyone anticipated environmental justice concerns. Craig Morris felt these would be minimal and right-of-way relocation would not be a problem. However, in the discussion, the issue of prime farmland was raised. The group felt this would be a key issue and needed to be considered.

7) Public Involvement

Carl Dixon asked where public meetings were typically held. A community center, name unknown, was available in Fredonia and held approximately 50 to 60 people. In Eddyville, meetings could be held in the new Lyon County Court House. It was agreed that the public meetings should be open-format on either a Tuesday or Thursday from 5:00 PM to 7:00 PM. It was decided that a slide presentation that would continuously loop throughout the meeting would be prepared.

Tim Choate noted that there was already a local committee formed in Marion who are pursuing the US 641 project, and they should be involved in any meetings. It was agreed that Marion and Crittenden County local officials and stakeholders would be invited to the local officials/stakeholders meeting in Fredonia.

It was also suggested that representatives from Martin Marietta, Department of Corrections, and State Parks be involved in the project.

8) Questions and Answers

Tim Choate asked what the outcome from the Alternatives Study would be. Carl Dixon responded by saying the goal of the consultant is to recommend a single corridor, but this is not always possible because of the limits on the available environmental data. On occasion, more than one corridor would need to be considered in the design phase if there is not sufficient environmental data to select a final corridor. Jim Wilson said that, if such an issue arose, it was possible that the study scope of work could be modified for some additional data and analysis to help in making the final decision.

Tim noted that he would like to see any or all connectors related to the project be included as part of the Alternatives Study.

Finally, Craig noted what he saw as three important legs resulting from an improved US 641. First, motorists wishing to head east from Fredonia would continue to use KY 91. Motorists traveling south to Eddyville would continue to use existing US 641. If US 641 were reconstructed to provide a connection to I-24, then motorists would use this new facility to go west.

With no further comments, the meeting concluded at approximately 3:20 p.m.

AGENDA
Project Scoping Meeting: Alternatives Study
Lyon-Caldwell Counties
Relocate/Reconstruct US 641 from Eddyville
in Lyon County to Fredonia in Caldwell County
June 23, 2003
1:00 p.m. CDT
Highway District 1 Office, Paducah, Kentucky

- | | |
|---|------------------------------|
| 1. Welcome and Introductions | Division of Planning |
| 2. Purpose of Meeting | Division of Planning |
| 3. Project History | Division of Planning/ |
| a. Origin | Highway District 1 |
| b. Purpose | |
| c. Priority 1 Section: Status/Features | |
| 4. Scope of Work | WSA |
| a. Tasks | |
| b. Responsible parties | |
| c. Schedule | |
| 5. Preliminary Data/Exhibits | WSA |
| 6. Project Issues | Group Discussion |
| a. Study Area | |
| b. District/Local Issues | |
| c. Project Goals | |
| d. Environmental Justice | |
| 7. Public Involvement | Group Discussion |
| a. Special groups | |
| b. Tasks | |
| c. Schedule | |
| 8. Q & A | Group Discussion |
| 9. Adjourn | Division of Planning |

MINUTES

Local Officials/Stakeholders Meeting

Alternatives Study to Relocate/Reconstruct US 641 from Eddyville to Fredonia Lyon and Caldwell Counties

Public Library
Eddyville, Kentucky
July 29, 2003 – 10:30 a.m.

A local officials/stakeholders meeting for the US 641 Alternatives Study in Lyon and Caldwell Counties was conducted on Tuesday, July 29, 2003, in Eddyville, Kentucky. The purpose was to discuss the project history and purpose; scope of work and related activities; preliminary data/exhibits; project issues; and public involvement needs. Participants at the meeting included local officials, agency representatives, stakeholders, and staff from the Pennyriple Area Development District (PADD), Kentucky Transportation Cabinet (KYTC) Districts 1 and 2, KYTC Central Office, and the project consultant, Wilbur Smith Associates (WSA). Meeting attendees included the following:

Rudy Bennett	Kuttawa City Council
Jim Boyd	Lyon County Judge-Executive
Steve Davidson	Crittenden County Economic Development Corporation
Mike Cherry	District 4 State Representative
Steve Cruce	Lyon County Magistrate
Russell Edwards	Eddyville Business Owner
Charles Ferguson	Lyon County Magistrate
Bart Frazer	Marion, Kentucky
Zac Greenwell	Marion, Kentucky
Ron Hughes	Marion, Kentucky
Kay McCollum	Kentucky's Western Watershed
Lee McCollum	Mayor, City of Kuttawa
Jim Moore	Caldwell Lyon Partnership
Bill Robertson	City of Kuttawa
John Rudolph	Lyon County Extension Service
Judi Sutton	Mayor, City of Eddyville
Nora Traum	Kentucky's Western Watershed
Chris Sutton	Pennyriple ADD
Craig Morris	Pennyriple ADD
Jess Reagan	Pennyriple ADD
Wayne Mosley	KYTC District 1, Chief District Engineer
Jeff Thompson	KYTC District 1, Planning
Kevin McClearn	KYTC District 2, Planning/Pre-Construction
Daryl Greer	KYTC Central Office, Planning
Stephen Hoefler	KYTC Central Office, Design
Carl D. Dixon	Wilbur Smith Associates
Samantha Wright	Wilbur Smith Associates

A summary of the key comments and discussion items for this meeting is provided below in order of the meeting agenda. A copy of the agenda for the meeting is attached to this document.

1) Welcome

Daryl Greer began the meeting with a statement of welcome and appreciation for local interest in the project. He indicated that the purpose of the meeting was to introduce the project need and to get input on the project from local attendees.

2) Introductions

Daryl then asked the attendees for introductions and reminded everyone to sign the sign-in sheet for the meeting. Attendees are listed above.

3) Project History

Carl Dixon introduced the history of the US 641 project. Steve Hoefler indicated that the Fredonia-to-Marion portion of the project is in the design phase. Preliminary corridors indicate the route will be located to the east of and generally parallel to existing US 641, with four lanes and partial control of access. Representative Cherry said that funds are currently in the Six Year Highway Plan for right-of-way phase in FY 2004 and construction could begin in FY 2005; however, the only “real funds” are for the first two years of the Plan, i.e., FY 2003 and FY 2004, so steps will be needed in the next session of the General Assembly to make sure that the funds for construction are included in the next version of the Six Year Highway Plan.

Carl explained that the project under consideration at this meeting was the study of US 641 south of Fredonia. The study of this portion of US 641 is expected to consider corridors from Fredonia south to I-24 or the Wendell H. Ford (Western Kentucky) Parkway. This project is in the planning stage and no future phases of this project are funded at this time.

4) Scope of Work

Carl briefly reviewed the Scope of Work for Wilbur Smith Associates. Tasks for this study include: data collection and analysis; public input-and-involvement meetings; identification of goals for the project; and development and analysis of potential corridor alternatives. Carl noted that Palmer Engineering and Qore would be subconsultants handling the environmental and geotechnical overviews. He also reviewed the project schedule, noting that public involvement meetings would likely be held in late September, 2003. A preliminary draft report is due in January, 2004.

Samantha Wright reviewed meeting handouts provided to attendees. Data presented were noted as preliminary, with further verification expected as the project progresses. Discussion items included the project study area, current traffic volumes and preliminary environmental issues. Other exhibits displayed at the meeting showed volume-to-service flow ratios, adequacy ratings and critical crash rates.

Changes and updates to the project materials recommended by the meeting attendees included the following:

- The city limits for Kuttawa have been expanded to the west, as indicated in the *Lyon County Eddyville-Kuttawa Comprehensive Plan*. A copy of the *Comprehensive Plan* was provided to WSA for further information.
- The Mineral Mounds State Park property is located only on the south/west side of I-24. The shaded area to the north/east should be removed on the environmental overview maps.

a) Project Purpose and Goals

Representative Mike Cherry indicated that the original intent of a connection from Fredonia to either I-24 or the Parkway was to provide 102-inch-wide truck access to Crittenden County, which currently does not have such access.

However, there are also other project purposes and/or benefits. One would be to serve the site of a proposed Caldwell/Lyon/Crittenden County industrial park on some portion of the penitentiary farm, located southeast of Fredonia. At present, the local economy is largely based around tourism, although there are efforts to expand this base into other industries.

The Mineral Mounds State Park could also benefit from improved access to the region, potentially expanding the tourism base in the area.

Through the meeting discussions, the following preliminary goals for a potential new route were identified:

- Improve access for economic development;
- Increase service to industrial areas; and
- Improve access to recreational areas and lakes.

b) Project Issues

John Rudolph with the Lyon County Extension Office indicated that the project area includes traditional farmland and there will probably be resistance from some family farm owners, especially those with “family lineage” farms and strong roots to the land in this area.

Representative Cherry said that the timeframe for the project would depend on the funding allocation in the next update of the Six Year Highway Plan. He stressed the need to move this project forward as quickly as possible.

Craig Morris with PADD recommended that the study consider both full-access control and partial-access control for the new route.

Other highway projects in the area should be considered in doing this study, such as the US 62 widening to four lanes.

There may be potential problems with karst around Fredonia.

c) Project Termini

Potential corridor locations discussed at the meeting included the following:

- A corridor east of Fredonia would feed three (3) arteries on the east side of town and provide access to Princeton.

- Tying in the corridor near the weigh stations is too far away to be beneficial to Eddyville.
- For recreation and tourism access, the corridor should terminate between Eddyville and Kuttawa, or at the existing US 641 intersection. When built, this improved route would provide better access not only to Marion and Fredonia, but also to and from the US 60/Henderson/Owensboro/Evansville area for those coming to the Lakes for recreation.

Mayor Lee McCollum indicated that Kuttawa depends on tourist traffic and any improved route in the area would be beneficial.

5) Public Involvement

Public involvement needs for this project include the following:

- Information related to the current design project between Fredonia and Marion will be of interest to the public. Preliminary alignments or other current information should be displayed for this project at the public information meetings.
- Public involvement efforts should consider input from farm owners as well as those living in town.
- There is an Amish population in Marion, and there may be some buggies and tractors using the existing US 641 corridor south of Fredonia. It may be beneficial to check on this and, if so, involve this population in the public information activities.
- No minority or low-income populations were identified in the study area.

Carl Dixon indicated that the first round of public involvement activities for this project is likely to be planned for mid to late September, 2003. The next meeting with the local officials will likely be held around Thanksgiving of this year. Daryl Greer said that local officials and agencies should also expect to receive correspondence requesting input and comments on the proposed project in the coming months.

6) Questions and Answers

One question was raised regarding the cross section of the potential connector route. WSA will be studying existing and future traffic needs as part of this study, which will help identify the number of lanes and suggested cross section.

7) Adjourn

With no further comments or questions, the meeting was adjourned at approximately 12:00 noon.

AGENDA
Local Officials Meeting

Alternatives Study
Lyon-Caldwell Counties
Relocate/Reconstruct US 641 from Eddyville
in Lyon County to Fredonia in Caldwell County

July 29, 2003
10:30 a.m. CDT
Public Library, Eddyville, Kentucky

- 1) Welcome**
- 2) Introductions**
- 3) Project History**
- 4) Scope of Work**
 - a) Project Purpose and Goals**
 - b) Project Issues**
 - c) Project Termini**
- 5) Public Involvement**
- 6) Questions and Answers**
- 7) Adjourn**

MINUTES
Local Officials/Stakeholders Meeting
Alternatives Study to Relocate/Reconstruct US 641
from Eddyville to Fredonia
Lyon and Caldwell Counties
Lion's Club
Fredonia, Kentucky
July 29, 2003 – 2:00 p.m.

A local officials/stakeholders meeting for the US 641 Alternatives Study in Lyon and Caldwell Counties was conducted on Tuesday, July 29, 2003, in Fredonia, Kentucky. The purpose was to discuss the project history and purpose; scope of work and related activities; preliminary data/exhibits; project issues; and public involvement needs. Participants at the meeting included local officials, agency representatives, stakeholders, and staff from the Pennyriple Area Development District (PADD), Kentucky Transportation Cabinet (KYTC) Districts 1 and 2, KYTC Central Office, and the project consultant, Wilbur Smith Associates (WSA). Meeting attendees included the following:

Bobby Beck	Mayor, City of Fredonia
Jim Boyd	Lyon County Judge-Executive
Mike Cherry	District 4 State Representative
Robert DeBoe	Western Kentucky Correctional Complex
Victor "Pippi" Hardin	Crittenden County Judge-Executive
Paul Herron, Jr.	State Senator
Ron Hughes	Marion, Kentucky
Jim Moore	Caldwell Lyon Partnership
Jared Nelson	Times Leader
Dale Watson	Western Kentucky Correctional Complex
Chris Sutton	Pennyriple ADD
Craig Morris	Pennyriple ADD
Wayne Mosley	KYTC District 1, Chief District Engineer
Tim Choate	KYTC District 1, Pre-Construction
Jeff Thompson	KYTC District 1, Planning
Sarah Woods	KYTC District 1
Kevin McClearn	KYTC District 2, Planning/Pre-Construction
Daryl Greer	KYTC Central Office, Planning
Stephen Hoefler	KYTC Central Office, Design
Carl D. Dixon	Wilbur Smith Associates
Samantha Wright	Wilbur Smith Associates

Following is a summary of the key comments and discussion items for this meeting is provided in order of the meeting agenda. A copy of the agenda for the meeting is attached to this document.

1) Welcome

Daryl Greer began the meeting with a statement of welcome and appreciation for local interest in the project. He indicated that the purpose of the meeting was to introduce the project need and to get input on the project from local attendees.

2) Introductions

Daryl then asked the attendees for introductions and reminded everyone to sign the sign-in sheet for the meeting. Attendees are listed above.

3) Project History

Carl Dixon explained that the project under consideration at this meeting was the study of US 641 south of Fredonia. The study of this portion of US 641 is expected to consider corridors from Fredonia south to I-24 or the Wendell H. Ford (Western Kentucky) Parkway. This project is in the planning stage and no future phases of this project are funded at this time.

Tim Choate, with KYTC District 1, said that the Fredonia-to-Marion portion of the project is in the design phase. Right-of-way plans are expected to be complete by the first of December, 2003, with the acquisition process beginning as soon as the first of the year, 2004. US 641 will be constructed on new alignment east of and parallel to the existing road. Tim noted that this was one of the alternates considered in the Pennyryle ADD public involvement study done a few years ago. Preliminary cross sections indicate that the route will be four lanes with partial control of access. Consideration has been given to initial construction of two lanes on four-lane right-of-way, with the remaining two lanes to be constructed in the future.

4) Scope of Work

Carl briefly reviewed the Scope of Work for Wilbur Smith Associates. Tasks for this study include: data collection and analysis; public input-and-involvement meetings; identification of goals for the project; and development and analysis of potential corridor alternatives. Carl noted that Palmer Engineering and Qore would be subconsultants handling the environmental and geotechnical overviews.

Samantha Wright reviewed meeting handouts provided to attendees. Data presented were noted as preliminary, with further verification expected as the project progresses. Discussion items included the project study area, current traffic volumes and preliminary environmental issues. Other exhibits displayed at the meeting showed volume-to-service flow ratios, adequacy ratings and critical crash rates.

Changes and updates to the project materials recommended by the meeting attendees included the following:

- The quarry operation in Fredonia should be added to the environmental issues map.
- There are “wildlife refuge area” signs posted at the Department of Corrections farm complex. This area should be checked for its wildlife status and potentially added to the environmental issues map.

a) Project Purpose and Goals

Pippi Hardin, Crittenden County Judge-Executive, offered a number of purposes that the proposed route could serve:

- Address the loss of industry due to the lack of oversized truck access and provide economic growth for the region, not only for Crittenden County, but for all of West Kentucky by providing improved access from the Henderson area to the south;
- Provide a connection to services in Paducah; and
- Serve as an alternate to the future I-66 and I-69 corridors.

Judge Hardin stated that “improving this road is not a matter of life-and-death for Crittenden County, it’s more important than that.”

b) Project Issues

Mayor Bobby Beck of Fredonia stated that the proposed route would be beneficial to the whole area.

Judge-Executive Hardin indicated that the no-passing zones, farm equipment, truck traffic, and quarry traffic make the existing US 641 route dangerous.

Robert DeBoe with the Western Kentucky Correctional Complex indicated that the existing US 641 route is not safe for his 210 staff who drive it. The proposed route would provide improved access to the complex and the farm.

Farmland impacts will be a concern with the public. Splitting of farms should be minimized as part of this project.

c) Project Termini

Potential corridor locations discussed at the meeting included the following:

- A new route to the west of US 641 would avoid farmland in the area.
- A new route should not come through Fredonia, but should not be located too far outside the city limits due to the costs of additional infrastructure.
- Because escapees are a reality, the proposed route should not be located through the middle of the penitentiary farm, but to the east or the west.
- On the southern end, a terminus near Eddyville or Kuttawa would be best.
- Judge Hardin said that the best location for Crittenden County would be an alternate west of Eddyville or Kuttawa, ideally near the weight stations, but they are not locked into that. He said that the east side toward Princeton would not be the best for Crittenden County, but they will live with what the study recommends. Their main interest is an improved road.
- South of Fredonia, a new route could tie into the existing US 641 corridor near the corner of the penitentiary farm and continue southwest to US 62 near the I-24 interchange. A cloverleaf at US 62 would eliminate the need for a stop or signal at the interchange.

5) Public Involvement

Public involvement needs for this project include the following:

- No minority or low-income populations were identified in the study area.
- Mayor Beck indicated that the Lion's Club facility would be available for public involvement activities and future meetings.

Carl Dixon indicated that the first round of public involvement activities for this project is likely to be planned for mid to late September, 2003. The next meeting with the local officials will likely be held around Thanksgiving of this year. A draft report for this study is expected in January, 2004.

Daryl Greer indicated that this is a planning study and the resulting recommendations will be general. He encouraged local officials to encourage others to come to the upcoming public involvement activities. Daryl Greer said that local officials and agencies should also expect to receive correspondence requesting input and comments on the proposed project in the coming months.

6) Questions and Answers

One question was raised related to the reality of funding for this project. Representative Cherry said that there is no funding for the project committed in the the Six Year Highway Plan. The next update for the Six Year Highway Plan is the next opportunity for funding to be added to the project.

7) Adjourn

With no further comments or questions, the meeting was adjourned at around 3:15 p.m.

AGENDA
Local Officials Meeting

Alternatives Study
Lyon-Caldwell Counties
Relocate/Reconstruct US 641 from Eddyville
in Lyon County to Fredonia in Caldwell County

July 29, 2003
2:00 p.m. CDT
Lion's Club, Fredonia, Kentucky

- 1) Welcome**
- 2) Introductions**
- 3) Project History**
- 4) Scope of Work**
 - a) Project Purpose and Goals**
 - b) Project Issues**
 - c) Project Termini**
- 5) Public Involvement**
- 6) Questions and Answers**
- 7) Adjourn**

Public Involvement Meeting

**US 641 Alternatives Study
Lyon and Caldwell Counties
Lyon County Public Library
Eddyville, Kentucky
September 29, 2003 – 5:00-7:00 p.m. CDT**

The first of two public involvement open house meetings was held on Monday, September 29, 2003 from 5:00 p.m. to 7:00 p.m. at the Lyon County Public Library in Eddyville, Kentucky. The purpose of the meeting was to provide preliminary information to the public on the proposed project and to get public input on possible issues, impacts, destination points, and alternates. The following Kentucky Transportation Cabinet (KYTC), Area Development District (ADD) and consultant staff were in attendance:

Craig Morris	Pennyrile Area Development District
Timothy Choate	KYTC, District 1
Allen Thomas	KYTC, District 1
LouElla Thomas	KYTC, District 1
Stephen Hoefler	KYTC Central Office, Division of Highway Design
Jimmy C. Wilson	KYTC Central Office, Division of Planning
Carl D. Dixon	Wilbur Smith Associates
Brad Johnson	Wilbur Smith Associates

The public involvement open house was arranged with several project information stations, and KYTC, ADD, and consultant staff members were available to answer questions and discuss issues. As attendees entered the meeting room, they were invited to participate in the following areas:

- **Sign-In**

Upon arrival, attendees were greeted at the door and asked to sign the attendance list. At this station, attendees were given a survey questionnaire, project brochure, and information regarding KYTC roadway projects. Attendees were asked to complete the survey questionnaire prior to leaving the meeting, or return it to the KYTC at a later date in the postage-paid envelope provided. Attendees were encouraged to view a slide presentation prior to walking through the project exhibits.

- **US 641 Alternatives Study Presentation**

A PowerPoint slide presentation was prepared for the public involvement meeting, providing information on the current US 641 Alternatives Study. The presentation included information such as: the study area; preliminary project goals; traffic, design and environmental considerations; public involvement opportunities; and contact information. This slide show was played continuously during the public involvement session, with a seating area provided nearby for viewers.

- **Exhibit Boards**

A section of the room was set up in a straight line arrangement of project exhibits, including the following titles:

- What is the project study area?
- How many cars and trucks are on area roadways today (2003) and what is the level of service?
- If there are no new road improvements, how many cars and trucks will be on area roadways in 2025 and what is the level of service?
- What are the environmental issues? (presented on aerial photography and topographic mapping)
- Where are the most crashes occurring?
- What is the overall performance of the highways?

Attendees were invited to view the project exhibits and discuss any questions or concerns with KYTC, ADD, and consultant staff. General comments consisted of the following:

- One couple noted how close their home was located to existing US 641 and were concerned about US 641 being widened instead of relocated/reconstructed.
- A couple of individuals were interested in what the typical section would be for the section from Fredonia to Marion and if the section from Eddyville to Fredonia would be the same.
- One individual noted that he drives US 641 most everyday with little to no delay.
- A couple of persons said that the road was unsafe due to speeding trucks and few passing opportunities.

- Map Drawing Exercise

One table was set up with one environmental footprint map and one project study area map for attendees to draw on. Markers were provided for attendees to circle areas on the environmental footprint that should be avoided. Areas identified included:

- Most areas along US 641 between Eddyville and Fredonia
- Five cemeteries not shown on the environmental footprint – four located in south Caldwell County between US 641 and KY 902 and one located along the Caldwell/Lyon County Line approximately one mile west of US 641.
- West Kentucky State Penitentiary Farm
- Prime farmland east and west of KY 373 in Lyon County
- Land north of the Paducah and Louisville Railway between KY 373 and US 641.

In addition, markers were used to indicate potential corridors for a relocated/reconstructed US 641. Potential corridors starting at the northern termini included:

- East around Fredonia and generally heading south to the existing US 62 interchange with the Wendell H. Ford (Western Kentucky) Parkway.
- West around Fredonia intersecting the northeast corner of Lyon County and then following just inside the Lyon County line intersecting the Wendell H. Ford (Western Kentucky) Parkway just east of the US 62 interchange.
- West around Fredonia continuing in a southeast direction crossing existing US 641 at Beck Road and then crossing through the West Kentucky State Penitentiary Farm and then terminating at two locations. The first along the Wendell H. Ford (Western Kentucky) Parkway just east of the US 62 interchange and the second crossing US 62 and interchanging with the Wendell H. Ford (Western Kentucky) Parkway halfway between the US 62 interchange and I-24 interchange.

- West of Fredonia continuing south to just north of the existing US 641 intersection with KY 1943 and then turning southeast to interchange with the Wendell H. Ford (Western Kentucky) Parkway at US 62.
 - West of Fredonia continuing south crossing US 62 just east of the existing intersection with US 641 and continuing to a new interchange with the Wendell H. Ford (Western Kentucky) Parkway.
 - West of Fredonia continuing south to terminate at the existing intersection of US 641 and US 62.
 - West of Fredonia running southwest in a straight line to KY 373 approximately two miles north of US 62 and then turning southeast to intersect US 62 across from KY 93.
 - West of Fredonia running southwest in a straight line to KY 373 approximately two miles north of US 62 and then turning south to intersect US 62 across from KY 295.
- Survey Area with Refreshments

A table was available to attendees to fill out their survey form and read over the project materials. Refreshments were also provided.

A total of 68 persons registered their attendance at the two-hour public session, not including the eight (8) KYTC, ADD, and consultant staff. Thirty-four (34) surveys were returned at the meeting.

Additional comments and identified issues are anticipated through the public comment surveys, which were distributed at the meeting to be returned during the meeting or by mail to the KYTC. Once all of the questionnaires are received by the KYTC, these comments will also be included in the official meeting record.

The meeting closed at 7:00 p.m.

Public Involvement Meeting

**US 641 Alternatives Study
Lyon and Caldwell Counties
Fredonia Lions Club
Fredonia, Kentucky
September 30, 2003 – 5:00-7:00 p.m. CDT**

The second of two public involvement open house meetings was held on Tuesday, September 30, 2003 from 5:00 p.m. to 7:00 p.m. at the Fredonia Lions Club in Fredonia, Kentucky. The purpose of the meeting was to provide preliminary information to the public on the proposed project and to get public input on possible issues, impacts, destination points, and alternates. The following Kentucky Transportation Cabinet (KYTC) and consultant staff were in attendance:

Allen Thomas	KYTC, District 1
Ted Merryman	KYTC, District 2, Chief District Engineer
Kevin McClearn	KYTC, District 2
Stephen Hoefler	KYTC Central Office, Division of Highway Design
Jimmy C. Wilson	KYTC Central Office, Division of Planning
Carl D. Dixon	Wilbur Smith Associates
Brad Johnson	Wilbur Smith Associates

The public involvement open house was arranged with several project information stations, and KYTC and consultant staff were available to answer questions and discuss issues. As attendees entered the meeting room, they were invited to participate in the following areas:

- **Sign-In**

Upon arrival, attendees were greeted at the door and asked to sign the attendance list. At this station, attendees were given a survey questionnaire, project brochure, and information regarding KYTC roadway projects. Attendees were asked to complete the survey questionnaire prior to leaving the meeting, or return it to the KYTC at a later date in the postage-paid envelope provided. Attendees were encouraged to view a slide presentation prior to walking through the project exhibits.

- **US 641 Alternatives Study Presentation**

A PowerPoint slide presentation was prepared for the public involvement meeting, providing information on the current US 641 Alternatives Study. The presentation included information such as: the study area; preliminary project goals; traffic, design and environmental considerations; public involvement opportunities; and contact information. This slide show was played continuously during the public involvement session, with a seating area provided nearby for viewers.

- **Exhibit Boards**

A section of the room was set up in a straight line arrangement of project exhibits, including the following titles:

- What is the project study area?

- How many cars and trucks are on area roadways today (2003) and what is the level of service?
- If there are no new road improvements, how many cars and trucks will be on area roadways in 2025 and what is the level of service?
- What are the environmental issues? (presented on aerial photography and topographic mapping)
- Where are the most crashes occurring?
- What is the overall performance of the highways?

Attendees were invited to view the project exhibits and discuss any questions or concerns with KYTC and consultant staff. Comments and concerns made during the public involvement meeting could also be recorded on a large display in this area of the room. General comments recorded consisted of the following:

- One couple noted the need for bypassing Fredonia due to an alarming number of accidents within the area, including one fatal accident the husband was involved in.
- Other Fredonia residents noted being aware of a high number of accidents within Fredonia.
- A few attendees were interested in knowing if the section from Fredonia to Marion would continue south of the existing southern termini because they are property owners along Old Mexico Road and are concerned about losing all or a portion of their property.
- One individual noted the importance of avoiding crossings with the Paducah and Louisville Railway and drew an example corridor demonstrating how this could be accomplished.

- Map Drawing Exercise

One table was set up with one environmental footprint map and one project study area map for attendees to draw on. Markers were provided for attendees to circle areas on the environmental footprint that should be avoided. Areas identified included:

- Three cemeteries not shown on the environmental footprint – one located in close proximity to the Caldwell/Crittenden/Lyon County Line; a second located approximately one half mile north of the Lyon County Line and halfway between US 641 and the Caldwell/Crittenden County Line; and a third located one half mile south of Fredonia off KY 902.
- Mill's Bluff which is a cave and spring located just off KY 902 near the Caldwell/Crittenden County Line.

In addition, markers were used to indicate potential corridors for a relocated/reconstructed US 641. Potential corridors starting at the northern termini included:

- East around Fredonia and generally following the eastern Lyon County line to intersect the Wendell H. Ford (Western Kentucky) Parkway at the Lyon/Caldwell County Line.
- West around Fredonia intersecting the northeast corner of Lyon County and then following the county line as explained for the last corridor.
- West around Fredonia continuing in a south, southeast direction to a terminus along US 641 and Beck Road.
- West of Fredonia continuing in the southern direction crossing existing US 641 at KY 1943 and then crossing US 62 east of US 641, continuing south to cross the Wendell H. Ford (Western Kentucky) Parkway and then terminating at I-24 in close proximity to KY 93.

- Following the previous corridor to a split north of KY 1943 and then staying west of US 641 following closely to the Eddyville northern city limits and terminating at the US 62 interchange with I-24.
 - West of the previous corridor intersecting KY 1943, KY 373, KY 295, KY 819, and KY 93 intersecting I-24 just east of KY 810.
 - West of Fredonia running southwest in a straight line intersecting I-24 just east of KY 810.
 - Assuming a northern termini at US 641 and KY 70 West, south in a straight line to an intersection with I-24 at the US 62 interchange.
 - Assuming northern termini on US 641 approximately four miles north of KY 70 West, southeast in a straight line to I-24 in close proximity to the westbound weigh station.
- Survey Area with Refreshments

A table was available to attendees to fill out their survey form and read over the project materials. Refreshments were also provided.

A total of 49 persons registered their attendance at the two-hour public session, not including the seven (7) staff members listed above. Thirteen (13) surveys were returned at the meeting.

Additional comments and identified issues are anticipated through the public comment surveys, which were distributed at the meeting to be returned during the meeting or by mail to the KYTC. Once all of the questionnaires are received by the KYTC, these comments will also be included in the official meeting record.

The meeting closed at 7:00 p.m.

MINUTES

Project Scoping Meeting: Alternatives Study Lyon-Caldwell Counties

Relocate/Reconstruct US 641 from Eddyville in Lyon County to Fredonia in Caldwell County

March 4, 2004

1:00 p.m. CDT

Highway District 1 Office, Paducah, Kentucky

The second project team meeting for the US 641 Alternatives Study in Lyon and Caldwell Counties was conducted on Thursday, March 4, 2004 in Paducah, Kentucky. The purpose of the meeting was to review input to date, discuss the proposed alternatives and level 1 screening, and plan future project activities. Participants at the meeting included representatives from KYTC Districts 1 and 2, FHWA, Pennyriple Area Development District (PADD), KYTC Central Office, and consultant staff from Wilbur Smith Associates (WSA). Individual attendees at the meeting included the following:

Craig Morris	Pennyriple Area Development District
Mary Murray	Federal Highway Administration
Wayne Mosley	KYTC, District 1, Chief District Engineer
Tim Choate	KYTC, District 1, TEBM, Pre-Construction
Allen Thomas	KYTC, District 1, TEBM, Planning
Jeff Thompson	KYTC, District 1, Planning
Chris Kuntz	KYTC, District 1, Design
Johnny Wall	KYTC, District 1, Utilities
Kevin McClearn	KYTC, District 2, Planning
Nick Hall	KYTC, District 2, Planning
Gary Bunch	KYTC Central Office, Environmental Analysis
Stephen Hoefler	KYTC Central Office, Highway Design
Jim Wilson	KYTC Central Office, Planning
Brad Johnson	Wilbur Smith Associates
Carl Dixon	Wilbur Smith Associates

A summary of the key comments and discussion items for this meeting is provided below in the order of the meeting agenda. A copy of the agenda for the meeting is attached to this document.

1) Welcome and Introductions

Jim Wilson began the meeting by welcoming everyone and asking them to introduce themselves.

2) Purpose of Meeting

Jim Wilson provided a brief recap of the project schedule to-date.

3) Review of Input to Date

Brad Johnson briefly discussed the public meeting survey results, areas to access and areas to avoid identified in the public meetings. He also reviewed the resource agency input. The project team was provided with a summary of the public survey comments. Mr. Johnson noted that 75% of the public meeting participants were in favor of the project. However, no clear consensus on the southern terminus was determined, although I-24 received a few more votes than did US 62 or the Wendell H. Ford Parkway. Key sensitive areas to avoid were identified as personal properties and homes, prime farmland, and historic and cultural sites.

During the public meetings, participants were asked to identify on maps their preferred corridor and areas to avoid. Maps of each were included in the handout and presented to the project team.

Mr. Johnson concluded this discussion item by presenting the resource agency findings. Noteworthy were the threatened and endangered species, which he identified as the Indiana bat, gray bat, pink mucket and bald eagle. He stated that a few respondents supported the corridor being as close as possible to the proposed Pennyrile WestPark Industrial Site. He also noted that some geologic concerns do exist, including karst formations, and a map was provided to WSA by the Kentucky Geologic Survey to identify these areas.

Allen Thomas asked the status of the Pennyrile WestPark Industrial Site. Craig Morris responded that the new administration has expressed support for the proposed site and he anticipated that the project would move forward.

Craig Morris presented the environmental justice findings concluding that the reconstruction of US 641 will have little or no impact on minority or low-income persons in Caldwell, Crittenden, Livingston, and Lyon Counties.

4) Proposed Alternatives

Carl Dixon presented the 12 alternative corridors explaining the theory behind each. Brad Johnson then presented the Level 1 screening, which addressed traffic, environmental and community impacts, project goals, and cost. From this data, each corridor was assigned a rating from Low to High. A Low rating was given to those alternates that do not adequately address many of the factors used in the screening process, especially if they do not adequately meet the project goals and/or they have a relatively higher potential for negative environmental and/or community impacts. The consultant discussed and presented the ratings for each of the corridors and suggested that corridors which do not meet a Medium-High or High rating should not be carried forward for further consideration. This would result in five corridors with an overall rating of either Medium-High or High to be carried forward. When the floor was opened for discussion, several questions were asked, some of the ratings were questioned, and the number of affected corridors was eventually modified by the Project Team.

Mary Murray asked if the historic Trail of Tears along US 641 and KY 91 would be a factor on this project. Tim Choate noted that it hasn't been a concern on the northern section, which is further along than the subject project.

Concerns were expressed because WSA's suggested guidelines would not carry forward a corridor that interchanges with I-24, which was the most favored terminus from the public survey summary. To address this concern, it was agreed that corridors with a rating of medium would also be carried forward to a Level 2 screening.

Steve Hoefler noted concern over the different percentages in the cost estimates for added contingencies. He felt that it should be clearly explained why they differ.

The Project Team was in agreement that some corridors could be dropped from consideration; however, it needs to be clearly explained to the public and in the report why each corridor was dropped from consideration during the Level 1 screening.

Tim Choate expressed concern over the width of the corridor along existing US 641. He felt 1000' on either side would not be adequate if a preferred alignment were to be a reasonable distance behind existing residences along US 641. His concerns were discussed, but no decision was made for the study analysis to include a wider corridor.

Tim Choate also recommended a new corridor alternate that included (1) the rebuilding of the interchange at Exit 4 and (2) a new corridor parallel and immediately adjacent to the West Kentucky State Penitentiary Farm from the Exit 4 interchange to a point near the existing farm entrance. The corridor then would follow existing alignments east or west of Fredonia. The interchange would be reconfigured to make US 641 to the north the predominant movement and would have US 62 intersect US 641 in a "T" configuration. The Project Team agreed that this alternate should be added and carried forward.

Craig Morris proposed to the group that a fully-controlled facility to the Pennyryle WestPark Industrial Site from the south be considered. North of the park would be a partially controlled facility similar to the section north of Fredonia.

It was recommended that the rating of Alternative Corridors 3 and 3A be reconsidered. In particular, the Project Team felt that the community and environmental impacts, compatibility with project goals, and public support for the corridor had not been adequately evaluated for these two alternates. After some discussion, it was agreed that this was the case and that the consultant would modify the evaluation process for these corridors based on the input from the Project Team.

In discussing which corridors would not be carried forward, Wayne Mosley recommended that Alternative Corridors 2B and 2C also be reconsidered and revised. After some discussion, it was decided by the Project Team that (1) the section of these alternates from the Wendell H. Ford Western Parkway to US 62 had potentially high negative community and environmental impacts and (2) these two alternates should be removed from further consideration.

In summary, based on the discussion at the meeting, the Project Team decided that:

- Alternates 2B, 2C, 3B, 3C, 3D, and 3E should not be carried forward
- Alternates 1, 1A, 2, 2A, 3, and 3A should be carried forward.
- A new alternate corridor, starting at Exit 4 and paralleling the West Kentucky State Penitentiary Farm should be developed and carried forward

5) Local Officials/Public Meeting – Round II and Next Steps

Carl Dixon recommended that the geotechnical and environmental overviews be completed prior to conducting the next round of meetings. WSA was asked to make the recommended adjustments to the alternate corridors and then provide their sub-consultants the okay to move forward with their work activities. This process would take at least 30 days to complete. At the conclusion of these efforts, the next round of meetings could be scheduled.

With no further comments, the meeting was adjourned at approximately 3:30 p.m.

AGENDA

**Project Scoping Meeting: Alternatives Study
Lyon-Caldwell Counties
Relocate/Reconstruct US 641 from Eddyville
in Lyon County to Fredonia in Caldwell County**

March 4, 2004

1:00 p.m. CDT

Highway District 1 Office, Paducah, Kentucky

- | | |
|--|--------------------------------|
| 1. Welcome and Introductions | Division of Planning |
| 2. Purpose of Meeting | Division of Planning |
| 3. Review of Input To-Date | Wilbur Smith Associates |
| a. Public Survey Summary | |
| b. Areas to Access/Avoid Identified by Public | |
| c. Resource Agency Input | |
| 4. Proposed Alternatives | Wilbur Smith Associates |
| a. Presentation of Alternatives | |
| b. Other Issues or Locations | |
| 5. Local Officials/Public Meeting - Round II | Division of Planning |
| a. Advertisement | |
| b. Meeting Agenda | |
| 6. Next Steps | Wilbur Smith Associates |
| 7. Q & A | Group Discussion |
| 8. Adjourn | Division of Planning |

MINUTES
Local Officials/Stakeholders Meeting
Alternatives Study to Relocate/Reconstruct US 641
from Eddyville to Fredonia
Lyon and Caldwell Counties

Lions Club
Fredonia, Kentucky
July 26, 2004 – 10:30 a.m.

The first of two local officials/stakeholders consultation meetings for the US 641 Alternatives Study in Lyon and Caldwell Counties was convened at 10:30 a.m. on Monday, July 26, 2004, at the Lions Club building in Fredonia, Kentucky. The purpose was to present information and get input on public survey results following the September, 2003 public meetings; early resource agency input; 14 project alternates considered to date; level one screening of all 14 alternates; the final eight (8) alternates to be carried forward for further evaluation; and the results of the environmental overview and geotechnical overview of those eight alternates. Participants at the meeting included local officials, agency representatives, stakeholders, and staff from the Pennyriple Area Development District (PADD), Kentucky Transportation Cabinet (KYTC) Districts 1 and 2, KYTC Central Office, and the project consultant, Wilbur Smith Associates (WSA). Meeting attendees included the following:

Elbert Bennett	Caldwell County Fiscal Court
Van Knight	Caldwell County Fiscal Court
Gale Cherry	Representing State Rep. Mike Cherry
Fred Brown	Crittenden County Judge-Executive
Roger Simpson	Crittenden County Magistrate
Steve Davidson	Crittenden County Economic Development Corp.
Mark Champion	Martin Marietta Aggregates
Mark Denton	Martin Marietta Aggregates
Mickey Alexander	Mayor, City of Marion
Wendell Garner	Western Kentucky Correctional Complex
Becky Pancake	Western Kentucky Correctional Complex
Tom Simpson	Western Kentucky Correctional Complex
Chris Sutton	Pennyriple ADD
Craig Morris	Pennyriple ADD
Lee Conrad	Pennyriple ADD
Tim Choate	KYTC District 1, Pre-Construction
Allen Thomas	KYTC District 1, Planning
Jeff Thompson	KYTC District 1, Planning
Kevin McClearn	KYTC District 2, Planning/Pre-Construction
Stephen Hoefler	KYTC Central Office, Design
Jim Wilson	KYTC Central Office, Planning
Ted Noe	KYTC Central Office, Planning

Carl D. Dixon
Brad Johnson

Wilbur Smith Associates
Wilbur Smith Associates

Following is a summary of the key discussion items and comments, provided in order of the meeting agenda. A copy of the agenda is attached to the minutes.

1) Welcome and Introductions

Jim Wilson welcomed everyone and indicated that he appreciated their attendance and interest in the project. At Mr. Wilson's request, the attendees then introduced themselves. Mr. Wilson reminded everyone to please put their names on the sign-in sheet. Meeting attendees from the sign-in sheet are listed at the beginning of these minutes.

2) Purpose of Meeting

Mr. Wilson stated that the purpose of the meeting was to provide information and get input on proposed alternates for the improvement of US 641. He then gave a brief progress report on the study, saying that the last local officials meeting was held in July, 2003 and public meetings were held in September, 2003. He said that the Cabinet had mailed out letters to solicit input from federal, state, and local resource agencies. He said that the consultants have developed project alternates and completed an environmental and geotech overview of those alternates, which are to be presented at the meeting. He then turned the agenda over to Carl Dixon, Wilbur Smith Associates.

3) Review of Input to Date

Carl Dixon began the discussion by reviewing the project goals. As he went through the goals, a question was raised by Crittenden County Judge-Executive Fred Brown regarding the status of the section north of Fredonia to Marion.

Tim Choate, with KYTC District 1, said that the Fredonia-to-Marion portion of the project is in final design. Right-of-way plans are essentially complete for the majority of the project, although there are some issues to be addressed at the project termini. However, since the Six Year Plan was not approved by the legislature, the state has no approved highway budget. Therefore, funds are not currently authorized for right-of-way purchase and utility relocation on the northern section. Also, while there are funds for the design on a five-mile portion of the section under study between Eddyville and Fredonia, these funds also are not authorized or necessarily available at present.

There were expressions of concern from many of the attendees. Judge Brown said that he had met with both the previous and current governor and felt that the county had commitments from each administration that the US 641 project would be given a high priority. He said that he was under the impression that the funds were available and committed to the project. KYTC staff indicated that the state used to set aside project funds, but this was no longer true because of the "spend down" of earmarked project funds at the direction of the legislature in the 2002 session and since the Six Year Plan has not been formally approved.

Messrs. Choate, Wilson, and Dixon all emphasized that it was important to finish this planning study for US 641 between Eddyville and Fredonia before KYTC can proceed into the next phase.

a. Public Survey Summary

With this extensive discussion eventually concluded, Mr. Dixon referred to a handout showing the summary results of surveys returned during earlier public involvement activities, which shows the following:

- 75% of the survey respondents felt that US 641 needs to be improved between Eddyville and Fredonia.
- The three primary problems identified on existing US 641 were safety (33%), large truck traffic (24%), and roads too narrow for trucks (17%).
- If US 641 is relocated, the top highways to connect with are I-24 (40%), Wendell H. Ford Western Kentucky Parkway (29%), and US 62 (29%).
- If US 641 is relocated, the top locations for the connection are I-24 near the weigh stations (16%), near the US 62/I-24 interchange (15%), the US 62/US 641 intersection (10%), and the US 62/Ford Parkway interchange (10%).
- 56% of the respondents use existing US 641 daily, and another 19% use it at least three times a week, thus, indicating that a large portion of the respondents use the existing road and should be knowledgeable about it.
- The primary sensitive areas to avoid are Personal Properties or Homes (28%) and Prime Farmland (23%). Other than property impacts, the third main sensitive areas to avoid were Historical or Cultural Sites (10%).

b. Areas to Avoid/Proposed Corridors

Mr. Dixon referred to the handouts to present two maps showing input received from attendees at the public meetings in September, 2003. The first map shows areas that should be avoided, if possible. This included (1) an area southwest of Fredonia which was purported to contain cemeteries, a spring, a bluff, caves, and sinkholes; (2) an area south of Fredonia encompassing an area on both sides of US 641 from the city limits to the northern boundary of the West Kentucky correctional facility, which contains prime farmland, a quarry, and numerous sinkholes; and (3) an area north of Eddyville from near just east of KY 295 on the west to the county line on the east and from the northern city limits of Eddyville and southern boundary of the West Kentucky state penitentiary farm on the south to a line paralleling US 62 on the north on a line approximately ending at the northern boundary of the West Kentucky state penitentiary farm. [NOTE: While not discussed at the Local Officials meeting, it was observed by staff at the public meeting that the latter area was drawn by someone at the meeting who was trying to create a barrier to the south that would force any proposed alternate to locate far west of Eddyville.]

Mr. Dixon also referred to another handout showing corridors proposed by attendees at the public meeting. He noted that this input was considered in developing the proposed alternates to be presented later at the meeting.

Mr. Dixon then asked Brad Johnson, Wilbur Smith Associates, to present information on public and resource agency input on the project.

c. Resource Agency Input

Brad Johnson, Wilbur Smith Associates, presented a summary of resource agency comments received to date. Mr. Johnson noted that 15 agency responses were received. Several responses expressed the importance of the project, noting it would provide an industrial and economic stimulant, particularly if it provided connection to the proposed industrial park. The Department of Fish and Wildlife noted several threatened and endangered species are known to exist within the study area. The Department of Corrections stated they preferred that the new roadway not be any closer than existing US 641. The Kentucky Geotechnical Branch noted that sinkholes are prevalent in the area and should be avoided if possible. They also noted a spring known to exist within the study area.

Mr. Johnson then asked Craig Morris, Transportation Planner, Pennyryle ADD, to provide the results of analysis of Environmental Justice issues in the study area.

4) Environmental Justice Issues

Craig Morris, Pennyryle ADD, explained what the Environmental Justice concept was and gave a very brief summary of his findings. He concluded that there should be no disproportionate impacts on Environmental Justice groups, i.e., minorities and low-income populations.

Upon request, Craig Morris also gave an update on the status of the new proposed Industrial Park. He said that the state has agreed to provide about 500 acres of the West Kentucky State Penitentiary Farm property on the northern end for the industrial park. Therefore, the development of the park is moving forward.

5) Proposed Alternatives

Carl Dixon then referred to a map in the handouts and on an exhibit board showing 15 potential alternates (including the No-Build alternate) identified by the consultant and the project team for consideration, as follows: 1, 1A, 2, 2A, 2B, 2C, 3, 3A, 3B, 3C, 3D, 3E, 4, and 4A. The consultant was then asked to do a “level one” screening to see if the number of alternates could be reduced. This initial screening considered primarily two factors: first, if the alternate adequately met the purpose and need for the project (as indicated by the preliminary project goals) and, second, if there was any potential major environmental impact that would result. The screening process also gave some consideration to the estimated project costs for the various alternatives.

Mr. Dixon then asked Brad Johnson, Wilbur Smith Associates, to review the “level one” screening process. Mr. Johnson discussed the 4-page evaluation matrices included in the handouts and explained each of the criteria and how the evaluation was done. This consisted of how well each alternate successfully met criteria in three evaluation areas: Project Goals, Environmental Issues, and Cost Issues. The fourth page is a summary sheet which presents the final results.

It was pointed out that the corridors shown on the maps are 2,000-foot-wide corridors, while the right-of-way required for the project would probably be about 150 to 200 feet; therefore, the totals of sensitive areas affected (e.g., properties or historical sites) as shown by the matrix number does not mean that all of these would be affected. That is, if the project moves forward into the design phase, there would still be some room

within each corridor to develop an alignment that could avoid or lessen the impact on sensitive areas, even if they exist in the corridor.

Based on this evaluation, Mr. Johnson pointed out that Alternates 2B, 2C, 3B, 3C, 3D, and 3E were dismissed by the KYTC project team, leaving nine (9) alternates (including the No-Build alternate), as shown on a second map in the handouts and as shown on an exhibit board. These will be carried forward for further evaluation and will be shown at the public meetings.

6) Discussion of Geotechnical Overview

Carl Dixon gave a brief summary of major problems identified in the geotechnical overview of the area, which shows that there is karst topography, including sinkholes, in the eastern portion of the study area. There is also a quarry in this area and a spring fed by an underground stream northwest of Fredonia. The geotechnical sub-consultant recommends that Alternates 2, 3, or 4 be used.

7) Discussion of Environmental Overview

Carl Dixon gave a brief summary of the environmental overview of the area, which generally shows no major problems, except for the Spring Mill Bluff (also identified in the geotechnical overview). There is karst topography and sinkholes, which can have archaeological significance. Also, there is the potential for about 25 Threatened and Endangered Species. Four of these have been sighted in the area: Indiana bat, gray bat, bald eagle, and the pink mucket. Those present were reminded that the corridors shown on the maps were 2,000-foot-wide corridors, while the right-of-way required for the project would probably be about 150 to 200 feet; therefore, there would be some room within each corridor to develop an alignment that could avoid or lessen the impact on sensitive areas.

8) Public Meeting – Round II

Jim Wilson then discussed the next round of public meetings, which are scheduled for 5 to 7 p.m., August 23rd and 24th, at the Public Library in Eddyville and the Lions Club in Fredonia, respectively. Mr. Wilson told the group that there were flyers and legal ads available and asked that they take some with them to place in their businesses, workplaces, or other locations in the area.

Carl Dixon presented a project survey form to be handed out at the public meeting. Mr. Wilson asked those present to go ahead and complete the survey and return them today, if possible, but that postage paid envelopes were available for later mailing.

9) Next Steps

Carl Dixon said that the next steps are, first, send out a second round of letters requesting resource agency input, probably in mid-August, and, second, hold the public meetings. Resource agency input should be complete in mid-October. After that, the KYTC project team would meet in early November to make a final recommendation. This could include recommending one or more corridors to be carried on to the next phase of project development. After the recommendation has been decided, a draft report will be prepared and submitted to the KYTC in mid-to-late November. After KYTC review, the final report would be developed and submitted by the end of the year.

10) Q & A

Comments presented by individual attendees during the meeting were as follows:

- Alternate 1 is no good. It goes nowhere.
- Alternate 3 is preferred, but would take prime farmland.
- There is not a big concern with the southern termini being US 62 as apposed to I-24 or the Wendell H. Ford Parkway.
- Fredonia is concerned with taking business from the city. Alternate 3 would help business less than the eastern bypass alternate.
- The quarry would have to find a connection to Alternate 3. A lot of this business is going south.
- Alternate 2A is a win-win for everyone: helps industrial park, quarry, and Fredonia. 4A could also meet these criteria.

11) Adjourn

With no further comments or questions, the meeting was adjourned at around noon.

AGENDA

Local Officials Meeting

Alternatives Study Lyon-Caldwell Counties Relocate/Reconstruct US 641 from Eddyville in Lyon County to Fredonia in Caldwell County

**July 26, 2004
10:30 a.m. CDT
Lions Club, Fredonia, Kentucky**

- | | |
|--|--------------------------------|
| 1. Welcome and Introductions | Division of Planning |
| 2. Purpose of Meeting | Division of Planning |
| 3. Review of Input To-Date | Wilbur Smith Associates |
| a. Public Survey Summary | |
| b. Areas to Access/Avoid Identified by Public | |
| c. Resource Agency Input | |
| 4. Environmental Justice Issues | Pennyrile ADD |
| 5. Proposed Alternatives | Wilbur Smith Associates |
| a. Presentation of Alternatives | |
| b. Tier 1 Screening of Alternatives | |
| c. Other Issues or Locations | |
| 6. Discussion of Geotechnical Overview | Wilbur Smith Associates |
| 7. Discussion of Environmental Overview | Wilbur Smith Associates |
| 8. Public Meeting - Round II | Division of Planning |
| a. Advertisement | |
| b. Meeting Agenda | |
| 9. Next Steps | Wilbur Smith Associates |
| 10. Q & A | Group Discussion |
| 11. Adjourn | Division of Planning |

MINUTES
Local Officials/Stakeholders Meeting
Alternatives Study to Relocate/Reconstruct US 641
from Eddyville to Fredonia
Lyon and Caldwell Counties

Public Library
Eddyville, Kentucky
July 26, 2004 – 2:00 p.m.

The second of two local officials/stakeholders consultation meetings for the US 641 Alternatives Study in Lyon and Caldwell Counties was convened at 2:00 p.m. on Monday, July 26, 2004, at the Public Library in Eddyville, Kentucky. The purpose was to present information and get input on public survey results following the September, 2003 public meetings; early resource agency input; 14 project alternates considered to date; level one screening of all 14 alternates; the final eight (8) alternates to be carried forward for further evaluation; and the results of the environmental overview and geotechnical overview of those eight alternates. Participants at the meeting included local officials, agency representatives, stakeholders, and staff from the Pennyryle Area Development District (PADD), Kentucky Transportation Cabinet (KYTC) Districts 1 and 2, KYTC Central Office, and the project consultant, Wilbur Smith Associates (WSA). Meeting attendees included the following:

Sara Boyd	Lyon County Judge Executive
Steve Cruce	Lyon County Magistrate
Bill Robertson	City of Kuttawa
Mike Kuntz	US Army Corps of Engineers
Shelly Morris	The Nature Conservancy
Chris Sutton	Pennyryle ADD
Craig Morris	Pennyryle ADD
Lee Conrad	Pennyryle ADD
Ted Merryman	KYTC District 1 & 2, Chief District Engineer
Tim Choate	KYTC District 1, Pre-Construction
Allen Thomas	KYTC District 1, Planning
Jeff Thompson	KYTC District 1, Planning
LouElla Thomas	KYTC District 1, Public Relations
Kevin McClearn	KYTC District 2, Planning/Pre-Construction
Stephen Hoefler	KYTC Central Office, Design
Jim Wilson	KYTC Central Office, Planning
Ted Noe	KYTC Central Office, Planning
Carl D. Dixon	Wilbur Smith Associates
Brad Johnson	Wilbur Smith Associates

Following is a summary of the key discussion items and comments, provided in order of the meeting agenda. A copy of the agenda is attached to the minutes.

1) Welcome and Introductions

Jim Wilson welcomed everyone and indicated that he appreciated their attendance and interest in the project. At Mr. Wilson's request, the attendees then introduced themselves. Mr. Wilson reminded everyone to please put their names on the sign-in sheet. Meeting attendees from the sign-in sheet are listed at the beginning of these minutes.

2) Purpose of Meeting

Mr. Wilson stated that the purpose of the meeting was to provide information and get input on proposed alternates for the improvement of US 641. He then gave a brief progress report on the study, saying that the last local officials meeting was held in July, 2003 and public meetings were held in September, 2003. He said that the Cabinet had mailed out letters to solicit input from federal, state, and local resource agencies. He said that the consultants have developed project alternates and completed an environmental and geotech overview of those alternates, which are to be presented at the meeting. He then turned the agenda over to Carl Dixon, Wilbur Smith Associates.

3) Review of Input to Date

Carl Dixon began the discussion by reviewing the project goals. He then began a discussion of the public meeting results.

a. Public Survey Summary

Mr. Dixon referred to a handout showing the summary results of surveys returned during earlier public involvement activities, which shows the following:

- 75% of the survey respondents felt that US 641 needs to be improved between Eddyville and Fredonia.
- The three primary problems identified on existing US 641 were safety (33%), large truck traffic (24%), and roads too narrow for trucks (17%).
- If US 641 is relocated, the top highways to connect with are I-24 (40%), Wendell H. Ford Western Kentucky Parkway (29%), and US 62 (29%).
- If US 641 is relocated, the top locations for the connection are I-24 near the weigh stations (16%), near the US 62/I-24 interchange (15%), the US 62/US 641 intersection (10%), and the US 62/Ford Parkway interchange (10%).
- 56% of the respondents use existing US 641 daily, and another 19% use it at least three times a week, thus, indicating that a large portion of the respondents use the existing road and should be knowledgeable about it.
- The primary sensitive areas to avoid are Personal Properties or Homes (28%) and Prime Farmland (23%). Other than property impacts, the third main sensitive areas to avoid were Historical or Cultural Sites (10%).

b. Areas to Avoid/Proposed Corridors

Mr. Dixon referred to the handouts to present two maps showing input received from attendees at the public meetings in September, 2003. The first map shows areas that should be avoided, if possible. This included (1) an area southwest of Fredonia which was purported to contain cemeteries, a spring, a bluff, caves, and sinkholes; (2) an area south of Fredonia encompassing an area on both sides of

US 641 from the city limits to the northern boundary of the West Kentucky correctional facility, which contains prime farmland, a quarry, and numerous sinkholes; and (3) an area north of Eddyville from near just east of KY 295 on the west to the county line on the east and from the northern city limits of Eddyville and southern boundary of the West Kentucky state penitentiary farm on the south to a line paralleling US 62 on the north on a line approximately ending at the northern boundary of the West Kentucky state penitentiary farm. [NOTE: While not discussed at the Local Officials meeting, it was observed by staff at the public meeting that the latter area was drawn by someone at the meeting who was trying to create a barrier to the south that would force any proposed alternate to locate far west of Eddyville.]

Mr. Dixon also referred to another handout showing corridors proposed by attendees at the public meeting. He noted that this input was considered in developing the proposed alternates to be presented later at the meeting.

Mr. Dixon then asked Brad Johnson, Wilbur Smith Associates, to present information on public and resource agency input on the project.

c. Resource Agency Input

Brad Johnson, Wilbur Smith Associates, presented a summary of resource agency comments received to date. Mr. Johnson noted that 15 agency responses were received. Several responses stated the importance of the project, noting it would provide an industrial and economic stimulant, particularly if it provided connection to the proposed industrial park.

The Department of Fish and Wildlife noted several threatened and endangered species known to exist within the study area. The Department of Corrections stated that they preferred the new roadway not be any closer than existing US 641. The Kentucky Geotechnical Branch noted that sinkholes are prevalent and should be avoided if possible and also that a spring was known to exist within the study area.

Mr. Johnson then asked Craig Morris, Transportation Planner, Pennyryle ADD, to provide the results of analysis of Environmental Justice issues in the study area.

4) Environmental Justice Issues

Craig Morris, Pennyryle ADD, explained what the Environmental Justice concept was and gave a very brief summary of his findings. He concluded that there should be no disproportionate impacts on Environmental Justice groups, i.e., minorities and low-income populations.

Upon request, Craig Morris also gave an update on the status of the new proposed Industrial Park. He said that the state has agreed to provide about 500 acres of the West Kentucky State Penitentiary Farm property on the northern end for the industrial park. Therefore, the development of the park is moving forward.

5) Proposed Alternatives

Carl Dixon then referred to a map in the handouts and on an exhibit board showing 15 potential alternates (including the No-Build alternate) identified by the consultant and

the project team for consideration, as follows: 1, 1A, 2, 2A, 2B, 2C, 3, 3A, 3B, 3C, 3D, 3E, 4, and 4A. He said the consultant was then asked to do a “level one” screening to see if the number of alternates could be reduced. This initial screening considered primarily two factors: first, if the alternate adequately met the purpose and need for the project (as indicated by the preliminary project goals) and, second, if there was any potential major environmental impact that would result. The screening process also gave some consideration to the estimated project costs for the various alternatives.

Mr. Dixon then asked Brad Johnson, Wilbur Smith Associates, to review the “level one” screening process. Mr. Johnson discussed the 4-page evaluation matrices included in the handouts and explained each of the criteria and how the evaluation was done. This consisted of how well each alternate successfully met criteria in three evaluation areas: Project Goals, Environmental Issues, and Cost Issues. The fourth page is a summary sheet which presents the final results.

It was pointed out that the corridors shown on the maps are 2,000-foot-wide corridors, while the right-of-way required for the project would probably be about 150 to 200 feet; therefore, the totals of sensitive areas affected (e.g., properties or historical sites) as shown by the matrix does not mean that all of these would be affected. That is, if the project moves forward, there would still be some room within each corridor for an alignment that could avoid or lessen the impact on sensitive areas in the corridor.

Based on this evaluation, Mr. Johnson pointed out that Alternates 2B, 2C, 3B, 3C, 3D, and 3E were dismissed by the KYTC project team, leaving nine (9) alternates (including the No-Build alternate), as shown on a second map in the handouts and as shown on an exhibit board. These will be carried forward for further evaluation and will be shown at the public meetings. Using the exhibit board, Mr. Johnson defined each of the eight (8) remaining “build” alternates to help eliminate any confusion.

6) Discussion of Geotechnical Overview

Carl Dixon gave a brief summary of major problems identified in the geotechnical overview of the area, which shows that there is karst topography, including sinkholes, in the eastern portion of the study area. There is also a quarry in this area and a spring fed by an underground stream northwest of Fredonia. The geotechnical sub-consultant recommends that Alternates 2, 3, or 4 be used.

7) Discussion of Environmental Overview

Carl Dixon gave a brief summary of the environmental overview of the area, which generally shows no major problems, except for the Spring Mill Bluff (also identified in the geotechnical overview). There are karst topography and sinkholes, which can also have archaeological issues. Also, there is the potential for about 25 or so Threatened and Endangered Species. Four have been sighted in the area: Indiana bat, gray bat, bald eagle, and the pink mucket. Those present were reminded that the corridors shown on the maps were 2,000-foot-wide corridors, while the required right-of-way would probably be about 150 to 200 feet; therefore, there would be room within each corridor for an alignment that could avoid or lessen the impact on sensitive areas.

8) Public Meeting – Round II

Jim Wilson then discussed the next round of public meetings, which are scheduled for 5 to 7 p.m., August 23rd and 24th, at the Public Library in Eddyville and the Lions Club in Fredonia, respectively. Mr. Wilson told the group that there were flyers and legal ads available and asked that they take some with them to place in their businesses, workplaces, or other locations in the area.

Carl Dixon presented a project survey questionnaire that will be handed out at the public meeting. Mr. Wilson asked those present to go ahead and complete the survey and return them today, if possible. If not, he said that postage-paid envelopes were available.

9) Next Steps

Carl Dixon said that the next steps are, first, send out a second round of letters requesting resource agency input, probably in mid-August, and, second, hold the public meetings. Resource agency input should be complete in mid-October. After that, the KYTC project team would meet in early November to make a final recommendation. This could include recommending one or more corridors to be carried on to the next phase. After the recommendation is decided, a draft report will be prepared and submitted in mid-to-late November. After KYTC review, the final report would be developed and submitted by the end of the year.

10) Q & A

Comments presented by individual attendees during the meeting were as follows:

- There was a question of when the recommendation will be made. This should be made in mid-to-late-November.
- Another question asked about the difference between Alternate 2 and 4 in terms of access. The consultant noted that Alternate 4 had direct access to the Wendell H. Ford Parkway while Alternate 2 accessed US 62.
- Alternate 3 (green) is not favored.
- Ms. Morris, The Nature Conservancy, noted that Alternate 4 would pass through a property where she is working with the property owner to restore its natural habitat.
- It was noted that the ultimate typical section would be a four-lane partially controlled facility.
- It was suggested all utility companies be involved in the agency coordination.
- Mr. Kuntz asked if wetlands inventory had been reviewed. It was noted that the environmental overview had not looked at wetlands in detail and that this would be evaluated more thoroughly in the next phase of work.
- The question was raised if only one corridor would be recommended. Mr. Dixon noted that more than one corridor could be carried forward to the next phase. As part of the NEPA process, the objective is to eliminate corridors that don't adequately meet the purpose and need of the project or that have major environmental issue. Even if other corridors are carried forward, he said the study could still recommend a preferred alternate, subject to further investigation.

11) Adjourn

With no further comments or questions, the meeting was adjourned at around 3:15 p.m.

AGENDA

Local Officials Meeting

Alternatives Study Lyon-Caldwell Counties Relocate/Reconstruct US 641 from Eddyville in Lyon County to Fredonia in Caldwell County

**July 26, 2004
2:00 p.m. CDT
Public Library, Eddyville, Kentucky**

- | | |
|--|--------------------------------|
| 1. Welcome and Introductions | Division of Planning |
| 2. Purpose of Meeting | Division of Planning |
| 3. Review of Input To-Date | Wilbur Smith Associates |
| a. Public Survey Summary | |
| b. Areas to Access/Avoid Identified by Public | |
| c. Resource Agency Input | |
| 4. Environmental Justice Issues | Pennyrile ADD |
| 5. Proposed Alternatives | Wilbur Smith Associates |
| a. Presentation of Alternatives | |
| b. Tier 1 Screening of Alternatives | |
| c. Other Issues or Locations | |
| 6. Discussion of Geotechnical Overview | Wilbur Smith Associates |
| 7. Discussion of Environmental Overview | Wilbur Smith Associates |
| 8. Public Meeting - Round II | Division of Planning |
| a. Advertisement | |
| b. Meeting Agenda | |
| 9. Next Steps | Wilbur Smith Associates |
| 10. Q & A | Group Discussion |
| 11. Adjourn | Division of Planning |

MINUTES
Media Meeting
Alternatives Study to Relocate/Reconstruct US 641
from Eddyville to Fredonia
Lyon and Caldwell Counties
Public Library
Eddyville, Kentucky
July 26, 2004 – 4:00 p.m. CDT

Following two local officials/stakeholders consultation meetings, a third meeting was held with representatives from the local media on the US 641 Alternatives Study in Lyon and Caldwell Counties. The meeting was convened at 4:00 p.m. on Monday, July 26, 2004, at the Public Library in Eddyville, Kentucky. The purpose of the media meeting was to present information and respond to questions on study activities, including the public survey results following the September, 2003 public meetings; early resource agency input; the 14 proposed project alternates considered initially; a level one screening to reduce the number of alternates; the final eight (8) “build” alternates to be carried forward for further evaluation; and the results of the environmental overview and geotechnical overview of those eight alternates.

Participants at the meeting included local media representatives and staff from the Pennyryle Area Development District (PADD), Kentucky Transportation Cabinet (KYTC) Central Office, and the project consultant, Wilbur Smith Associates (WSA). Meeting attendees included the following:

Bobbie Foust	Herald Ledger
Chris Evans	The Crittenden Press
Jared Nelson	Times Leader
Caroline Garcia-Quinn	Lite Rock 104.9 WAVJ FM
Brian Peach	Paducah Sun
Craig Morris	Pennyryle ADD
Jim Wilson	KYTC Central Office, Planning
Ted Noe	KYTC Central Office, Planning
Carl D. Dixon	Wilbur Smith Associates
Brad Johnson	Wilbur Smith Associates

Following is a summary of the key discussion items and comments, provided in order of the meeting agenda. A copy of the agenda is attached to the minutes.

1) Welcome and Introductions

Jim Wilson welcomed everyone and indicated that he appreciated their attendance and interest in the project. At Mr. Wilson’s request, the attendees then introduced themselves. Mr. Wilson reminded everyone to please put their names on the sign-in sheet. Meeting attendees from the sign-in sheet are listed at the beginning of these minutes.

2) Purpose of Meeting

Mr. Wilson stated that the purpose of the meeting was to provide information on the US 641 planning study and particularly the proposed alternates for the improvement of US 641. He then gave a brief progress report on the study, saying that the last local officials meeting was held in July, 2003 and public meetings were held in September, 2003. He said that the Cabinet had mailed out letters to solicit input from federal, state, and local resource agencies. He said that the consultants have developed project alternates and completed an environmental and geotech overview of those alternates, which are to be presented at the meeting. He then turned the agenda over to Carl Dixon, Wilbur Smith Associates.

3) Review of Input to Date

Carl Dixon began the discussion by reviewing the project goals. He then presented a discussion of the public meeting results.

a. Public Survey Summary

Mr. Dixon referred to a handout showing the summary results of surveys returned during earlier public involvement activities, which shows the following:

- 75% of the survey respondents felt that US 641 needs to be improved between Eddyville and Fredonia.
- The three primary problems identified on existing US 641 were safety (33%), large truck traffic (24%), and roads too narrow for trucks (17%).
- If US 641 is relocated, the top highways to connect with are I-24 (40%), Wendell H. Ford Western Kentucky Parkway (29%), and US 62 (29%).
- If US 641 is relocated, the top locations for the connection are I-24 near the weigh stations (16%), near the US 62/I-24 interchange (15%), the US 62/US 641 intersection (10%), and the US 62/Ford Parkway interchange (10%).
- 56% of the respondents use existing US 641 daily, and another 19% use it at least three times a week, thus, indicating that a large portion of the respondents use the existing road and should be knowledgeable about it.
- The primary sensitive areas to avoid are Personal Properties or Homes (28%) and Prime Farmland (23%). Other than property impacts, the third main sensitive areas to avoid were Historical or Cultural Sites (10%).

b. Areas to Avoid/Proposed Corridors

Mr. Dixon referred to the handouts to present two maps showing input received from attendees at the public meetings in September, 2003. The first map shows areas that should be avoided, if possible. This included (1) an area southwest of Fredonia which was purported to contain cemeteries, a spring, a bluff, caves, and sinkholes; (2) an area south of Fredonia encompassing an area on both sides of US 641 from the city limits to the northern boundary of the West Kentucky correctional facility, which contains prime farmland, a quarry, and numerous sinkholes; and (3) an area north of Eddyville from near just east of KY 295 on the west to the county line on the east and from the northern city limits of Eddyville and southern boundary of the West Kentucky state penitentiary farm on the south

to a line paralleling US 62 on the north on a line approximately ending at the northern boundary of the West Kentucky state penitentiary farm.

Mr. Dixon also referred to another handout showing corridors proposed by attendees at the public meeting. He noted that this input was considered in developing the proposed alternates to be presented later at the meeting.

Mr. Dixon then asked Brad Johnson, Wilbur Smith Associates, to present information on public and resource agency input on the project.

c. Resource Agency Input

Brad Johnson, Wilbur Smith Associates, presented a summary of resource agency comments received to date. Mr. Johnson noted that 15 agency responses were received. Multiple responses stated the importance of the project noting it would provide an industrial and economic stimulant, particularly if it provided connection to the proposed industrial park. The Department of Fish and Wildlife noted several threatened and endangered species known to exist within the study area. The Department of Corrections stated they preferred the new roadway not be any closer than existing US 641. The Kentucky Geotechnical Branch noted that sinkholes are prevalent in the area and should be avoided if possible. They also noted the presence of a spring known to exist within the study area.

Mr. Johnson then asked Craig Morris, Transportation Planner, Pennyryle ADD, to provide the results of analysis of Environmental Justice issues in the study area.

4) Environmental Justice Issues

Craig Morris, Pennyryle ADD, explained what the Environmental Justice concept was and gave a very brief summary of his findings. He concluded that there should be no disproportionate impacts on Environmental Justice groups, i.e., minorities and low-income populations.

Upon request, Craig Morris also gave an update on the status of the new proposed Industrial Park. He said that the state has agreed to provide about 500 acres of the West Kentucky State Penitentiary Farm property on the northern end for the industrial park. Therefore, the development of the park is moving forward.

5) Proposed Alternatives

Carl Dixon then referred to a map in the handouts and on an exhibit board showing 15 potential alternates (including the No-Build alternate) identified by the consultant and the project team for consideration, as follows: 1, 1A, 2, 2A, 2B, 2C, 3, 3A, 3B, 3C, 3D, 3E, 4, and 4A. He said the consultant was then asked to do a “level one” screening to see if the number of alternates could be reduced. This initial screening considered primarily two factors: first, if the alternate adequately met the purpose and need for the project (as indicated by the preliminary project goals) and, second, if there was any potential major environmental impact that would affect any of the alternates. The screening process also gave some consideration to the estimated project costs for the various alternatives.

Mr. Dixon then asked Brad Johnson, Wilbur Smith Associates, to review the “level one” screening process. Mr. Johnson discussed the 4-page evaluation matrices included in the handouts and explained each of the criteria and how the evaluation was done. This consisted of how well each alternate successfully met criteria in three evaluation areas: Project Goals, Environmental Issues, and Cost Issues. The fourth page is a summary sheet which presents the final results.

It was pointed out that the corridors shown on the maps are 2,000-foot-wide corridors, while the right-of-way required for the project would probably be about 150 to 200 feet; therefore, the totals of sensitive areas affected (e.g., properties or historical sites) shown by the matrix number does not mean that all of these would be affected. That is, if the project moves forward into the design phase, there would still be some room within each corridor to develop an alignment that could avoid or lessen the impact on sensitive areas, even if they exist in the corridor.

Based on this evaluation, Mr. Johnson pointed out that Alternates 2B, 2C, 3B, 3C, 3D, and 3E were dismissed by the KYTC project team, leaving nine (9) alternates (including the No-Build alternate), as shown on a second map in the handouts and as shown on an exhibit board. These will be carried forward for further evaluation and will be shown at the public meetings. Using the exhibit board, Mr. Johnson defined each of the eight (8) remaining “build” alternates to help eliminate any confusion.

6) Discussion of Geotechnical Overview

Carl Dixon gave a brief summary of major problems identified in the geotechnical overview of the area, which shows that there is karst topography, including sinkholes, in the eastern portion of the study area. There is also a quarry in this area and a spring fed by an underground stream northwest of Fredonia. The geotechnical sub-consultant recommends that Alternates 2, 3, or 4 be used.

7) Discussion of Environmental Overview

Carl Dixon gave a brief summary of the environmental overview of the area, which generally shows no major problems, except for the Spring Mill Bluff (also identified in the geotechnical overview). There is karst topography and sinkholes, which can also have archaeological issues. Also, there is the potential for about 25 or so Threatened and Endangered Species. Four of these have been sighted in the area: Indiana bat, gray bat, bald eagle, and the pink mucket. Those present were reminded that the corridors shown on the maps were 2,000-foot-wide corridors, while the right-of-way required would probably be about 150 to 200 feet; therefore, there would be room within each corridor to develop an alignment to avoid or lessen the impact on sensitive areas.

8) Public Meeting – Round II

Jim Wilson then discussed the next round of public meetings, which are scheduled for 5 to 7 p.m., August 23rd and 24th, at the Public Library in Eddyville and the Lions Club in Fredonia, respectively. Mr. Wilson told the group that there were flyers and legal ads available and asked that they take some with them to place in their businesses, workplaces, or other locations in the area.

9) Next Steps

Carl Dixon said that the next steps are, first, send out a second round of letters requesting resource agency input, probably in mid-August, and, second, hold the public meetings. Resource agency input should be complete in mid-October. After that, the KYTC project team would meet in early November to make a final recommendation. This could include recommending one or more corridors to be carried on to the next phase of project development. After the recommendation has been decided, a draft report will be prepared and submitted to the KYTC in mid-to-late November. After KYTC review, the final report would be developed and submitted by the end of the year.

10) Q & A

Questions and comments presented by individual attendees during the meeting were as follows:

- A couple of questions related to funding were raised. Mr. Wilson noted that right-of-way, utilities and construction dollars for the section north of Fredonia have not been authorized. For the section south of Fredonia, a five (5) mile section is included in the KYTC Six Year Highway Plan for design, but this money hasn't been authorized as yet. It was also explained that the most recent Six Year Plan hasn't been approved by the General Assembly. This can be confusing because the most recent unapproved version does have variations from the previous approved plan.
- As part of the recommendation, a phasing plan for implementation will be recommended, since the entire project can't be built at one time.
- The question was raised if only one corridor would be recommended. Mr. Dixon noted that more than one corridor could be carried forward to the next phase of work. He said, as part of the NEPA process, the objective is to eliminate the corridors that don't adequately meet the purpose and need of the project or that have potentially significant environmental concerns. The study could recommend that more than one alternate be carried forward into the next phase, but still recommend a preferred alternate, subject to further evaluation.

11) Adjourn

With no further comments or questions, the meeting was adjourned at around 5:15 p.m.

Public Involvement Meeting

**US 641 Alternatives Study
Lyon and Caldwell Counties
Lyon County Public Library
Eddyville, Kentucky
August 23, 2004 – 5:00-7:00 p.m. CDT**

A public involvement open house meeting was held on Monday, August 23, 2004 from 5:00 p.m. to 7:00 p.m. at the Lyon County Public Library in Eddyville, Kentucky. The purpose of the meeting was to allow the public to review their previous input on the proposed project, view the level 1 screening process to discover how the recommended alternates were chosen, and express their opinions on their favorite and least favorite alternatives. The following Kentucky Transportation Cabinet (KYTC), Area Development District (ADD) and consultant staff were in attendance:

Craig Morris	Pennyrile Area Development District
Ted Merryman	KYTC, District 1 and 2 Chief District Engineer
Timothy Choate	KYTC, District 1
Allen Thomas	KYTC, District 1
LouElla Thomas	KYTC, District 1
Terry O. McKinney	KYTC, District 2
Stephen Hoefler	KYTC Central Office, Division of Highway Design
Daryl Greer	KYTC Central Office, Division of Planning
Jimmy C. Wilson	KYTC Central Office, Division of Planning
Wheeler Nevels	KYTC Central Office
Carl D. Dixon	Wilbur Smith Associates
Brad Johnson	Wilbur Smith Associates
Ashley Day	Wilbur Smith Associates

The public involvement open house was arranged with multiple project information stations, and KYTC, ADD, and consultant staff members were available to answer questions and discuss issues. As attendees entered the meeting room, they were invited to participate in the following areas:

- **Sign-In**

Upon arrival, attendees were greeted at the door and asked to sign the attendance list. At this station, attendees were given a survey questionnaire, project brochure, and information regarding KYTC roadway projects. Attendees were asked to complete the survey questionnaire prior to leaving the meeting, or return it to the KYTC at a later date in the postage-paid envelope provided. Refreshments were also provided to the attendees at the entrance of the meeting room.

- **Exhibit Boards**

A section of the room was set up with the project exhibits in a straight line arrangement to demonstrate the sequence of the planning process thus far. The exhibit boards included the following titles:

- What are the preliminary project goals?
- What is the history of the US 641 Alternatives Study?
- Where are the most crashes occurring?
- How many cars and trucks are on area roadways today (2003) and what is the level of service?
- If there are no new road improvements, how many cars and trucks will be on area roadways in 2025 and what is the level of service?
- What areas did the public want to avoid?
- What corridors were proposed by the public?
- September 2003 Public Meetings – Survey Response Summary
- What corridor alternates were proposed following the public meetings?
- Level 1 Screening – Project Goals
- Level 1 Screening – Environmental
- Level 1 Screening – Cost
- Level 1 Screening Summary
- What corridor alternates were considered for further evaluation?

Attendees were invited to view the project exhibits and discuss any questions or concerns with KYTC, ADD, and consultant staff. General comments consisted of the following:

- A number of individuals expressed concern that one or more of the proposed alternates would go through their home and/or farmland;
- Several attendees expressed interest in the preferred alternate providing access to the proposed Industrial Park north of the West Kentucky State Penitentiary Farm;
- One individual expressed support for Alternative 1 because it would be one of the most cost efficient;
- The cost of the proposed alternate was a major consideration for many people when deciding on their preferred alternate; and
- One individual wanted the proposed alternate to be away from existing US 641 to reduce the risk of relocations along the existing route.

- Survey Area

A table was available for attendees to fill out their survey form and read over the project materials. Coloring books and crayons were also present for the children that attended.

A total of 80 persons registered their attendance at the two-hour public session, not including the thirteen (13) KYTC, ADD, and consultant staff. Forty-two (42) surveys were returned at the meeting.

Additional comments and identified issues are anticipated through the public comment surveys, which were distributed at the meeting to be returned during the meeting or by mail to the KYTC. Once all of the questionnaires are received by the KYTC, these comments will also be included in the official meeting record.

The meeting closed at 7:05 p.m.

Public Involvement Meeting

**US 641 Alternatives Study
Lyon and Caldwell Counties
Lions Club**

**Fredonia, Kentucky
August 24, 2004 – 5:00-7:00 p.m. CDT**

A public involvement open house meeting was held on Tuesday, August 24, 2004 from 5:00 p.m. to 7:00 p.m. at the Fredonia Lions Club in Fredonia, Kentucky. The purpose of the meeting was to allow the public to review their previous input on the proposed project, view the level 1 screening process to discover how the recommended alternates were chosen, and express their opinions on their favorite and least favorite alternatives. The following Kentucky Transportation Cabinet (KYTC), Area Development District (ADD) and consultant staff were in attendance:

Craig Morris	Pennyrile Area Development District
Ted Merryman	KYTC, District 1 and 2 Chief District Engineer
Timothy Choate	KYTC, District 1
Allen Thomas	KYTC, District 1
Chris Kuntz	KYTC, District 1
Kevin McClearn	KYTC, District 2
Nick Hall	KYTC, District 2
Stephen Hoefler	KYTC Central Office, Division of Highway Design
Daryl Greer	KYTC Central Office, Division of Planning
Jimmy C. Wilson	KYTC Central Office, Division of Planning
Carl D. Dixon	Wilbur Smith Associates
Brad Johnson	Wilbur Smith Associates
Ashley Day	Wilbur Smith Associates

The public involvement open house was arranged with multiple project information stations, and KYTC, ADD, and consultant staff members were available to answer questions and discuss issues. As attendees entered the meeting room, they were invited to participate in the following areas:

- **Sign-In**

Upon arrival, attendees were greeted at the door and asked to sign the attendance list. At this station, attendees were given a survey questionnaire, project brochure, proposed alternative corridors map, public survey summary, and information regarding KYTC roadway projects. Attendees were asked to complete the survey questionnaire prior to leaving the meeting, or return it to the KYTC at a later date in the postage-paid envelope provided. Refreshments were also provided.

- **Exhibit Boards**

A section of the room was set up with the project exhibits in a straight line arrangement to demonstrate the sequence of the planning process thus far. The exhibit boards included the following titles:

- What are the preliminary project goals?

- What is the history of the US 641 Alternatives Study?
- Where are the most crashes occurring?
- How many cars and trucks are on area roadways today (2003) and what is the level of service?
- If there are no new road improvements, how many cars and trucks will be on area roadways in 2025 and what is the level of service?
- What areas did the public want to avoid?
- What corridors were proposed by the public?
- September 2003 Public Meetings – Survey Response Summary
- What corridor alternates were proposed following the public meetings?
- Level 1 Screening – Project Goals
- Level 1 Screening – Environmental
- Level 1 Screening – Cost
- Level 1 Screening Summary
- What corridor alternates were considered for further evaluation?

Attendees were invited to view the project exhibits and discuss any questions or concerns with KYTC, ADD, and consultant staff. General comments consisted of the following:

- A number of individuals expressed strong opposition towards the proposed project;
- One individual that lives on US 641 stated that the existing road was safe for truck traffic;
- Potential relocations and farmland impacts were concerns mentioned by several attendees;
- One individual did not want the proposed alternate to bypass Fredonia due to fear of the family gas station losing significant traffic;
- Several others expressed concern that bypassing Fredonia would hurt local businesses;
- Several attendees commented that Alternate 1 would destroy the most prime farmland in the study area; and,
- A missing cemetery was identified on the exhibits by one attendee. The location was identified on a handout map and provided to the consultant.

- Survey Area

Tables were available for attendees to fill out their survey form and read over the project materials. Coloring books and crayons were also present for the children that attended.

A total of 90 persons registered their attendance at the two-hour public session, not including the thirteen (13) KYTC, ADD, and consultant staff. Fifty-five (55) surveys were returned at the meeting, including one (1) survey from an individual that had attended the Eddyville public meeting the previous evening.

Additional comments and identified issues are anticipated through the public comment surveys, which were distributed at the meeting to be returned during the meeting or by mail to the KYTC. Once all of the questionnaires are received by the KYTC, these comments will also be included in the official meeting record.

The meeting closed at 7:00 p.m.

MINUTES

Final Project Team Meeting: Alternatives Study Lyon-Caldwell Counties

Relocate/Reconstruct US 641 from Eddyville in Lyon County to Fredonia in Caldwell County

November 22, 2004

10:00 a.m. CST

Highway District 2 Office, Madisonville, Kentucky

The final project team meeting for the US 641 Alternatives Study in Lyon and Caldwell Counties was conducted on Monday, November 22, 2004 in Madisonville, Kentucky. The purpose of the meeting was to review input to date, discuss the proposed alternatives, and make final recommendations for the study. Participants at the meeting included representatives from KYTC Districts 1 and 2, Pennyriple Area Development District (PADD), KYTC Central Office, and consultant staff from Wilbur Smith Associates (WSA). Individual attendees at the meeting included the following:

Craig Morris	Pennyriple Area Development District
Tim Choate	KYTC, District 1, TEBM, Pre-Construction
Allen Thomas	KYTC, District 1, TEBM, Planning
Chris Kuntz	KYTC, District 1, Design
Johnny Wall	KYTC, District 1, Utilities
Everett Green	KYTC, District 2, TEBM, Pre-Construction
Kevin McClearn	KYTC, District 2, TEBM, Planning
Nick Hall	KYTC, District 2, Planning
Jim Wilson	KYTC Central Office, Planning
Ted Noe	KYTC Central Office, Planning
Jamie Bewley	KYTC Central Office, Planning
Brad Johnson	Wilbur Smith Associates
Carl Dixon	Wilbur Smith Associates

A summary of the key comments and discussion items for this meeting is provided below in the order of the meeting agenda. A copy of the agenda for the meeting is attached to this document.

1) Welcome and Introductions

Jim Wilson began the meeting by welcoming everyone and asking them to introduce themselves.

2) Purpose of Meeting

Jim Wilson provided a brief recap of the project schedule to-date and stated that the purpose of the meeting was to review the study findings, select a corridor or corridors to be taken into future phases, and make final recommendations.

3) Review of Input to Date

a. Public Survey Summary

Brad Johnson briefly discussed the public meeting input from the last public meetings. The project team was provided a handout with a summary of both the first and second rounds of public survey input. He provided a summary of input from the second round, noting that some of the responses did not follow instructions with regard to selecting one alternate for either the preferred alternate or the alternate least preferred, but an analysis of the results did not indicate a significant difference in the relative voting. Therefore, Mr. Johnson chose to present the percentages for all alternates selected.

Mr. Johnson noted that Alternate 2 was preferred by the largest percentage (43%) of the public input survey, and Alternate 1 (20%) and Alternate 4 (14%) were the next highest. The alternate receiving the most votes as the least preferred alternate was Alternate 1 (43%), with Alternate 3 (32%) a close second in the voting. Alternates 3A and 1A were next, with 11% and 10%, respectively. Totals include both the public meeting surveys and the surveys from the local officials/stakeholders meetings held prior to the public meetings.

Mr. Johnson noted that the surveys from the local officials/stakeholders meetings were also compiled separately. The results from this were more telling, in that 95% of the local officials/stakeholders preferred Alternate 2, and 95% were most opposed to Alternate 1.

Based on the survey results, it appears that the local officials/stakeholders and the public prefer to (1) utilize existing US 641 to the maximum extent possible on the southern end of the proposed project and (2) locate the “new” US 641 “bypass” west (rather than east) of Fredonia on the northern end of the project.

b. Resource Agency Input

Carl Dixon then briefly summarized the input from the resource agencies and other interested parties. A handout was provided that summarized the input from the first and second rounds of resource agency coordination. Generally, much of the input from many agencies provided input on the process and requirements for the next phase of the project. Only a few specifically addressed a particular corridor alternate, as follows:

- Atmos Energy Corporation indicated that both Alternates 1 and 3 would cross their natural gas lines.
- Crittenden County Economic Development Corporation (CCEDC) strongly endorsed Alternate 2A, stating that it was vital that the “new” US 641 be in close proximity to the 800-acre Pennyryle WestPark Industrial Park, located adjacent to the Prison Farm.
- Senator Dorsey Ridley favored Alternate 2 because it would affect the fewest individuals and require the smallest number of relocations. He stated that using the present corridor would be prudent.
- Kentucky Department of Corrections, Western Kentucky Corrections Complex (WKCC) opposed Alternates 1, 4, and 4A. Since these are located immediately adjacent to the West Kentucky Prison Farm property, they may compromise WKCC’s mission by providing prisoners with access to dangerous contraband (e.g.,

drugs and weapons) and the potential for escape through easier facilitation.

- The Nature Conservancy-Kentucky Chapter indicated that Alternates 4 and 1A would likely affect two properties owned by a single landowner with whom the Nature Conservancy is currently involved to improve wildlife habitat on those properties.
- Kentucky Department of Travel, Commerce Cabinet stated that all alternates, except Alternate 3, would improve access to Mineral Mounds State Park. They also said that all alternates appear to have a minimal impact on natural habitat and historic sites, but this was to a lesser extent for Alternates 1, 1A, and 2A.

Carl also reviewed factors identified in the Environmental Overview and Geotechnical Overview. Generally, there are no major environmental issues that affect the selection of a corridor alternate. Some of the primary environmental concerns are habitats related to threatened and endangered species in the study area, which can be addressed further in the next phase of the project. Another is Mill Springs Bluff, a sensitive area west of Fredonia in the approximate location of the corridor; therefore, this site should be avoided during the next phase, if possible.

The major concerns from a geotechnical perspective are the rock quarry south of Fredonia and the karst topography which lies primarily along the easternmost corridors. It was stated that “the gold corridor” (Alternate 1 and 1A) has “the highest probability for Karst activity.” In order of priority, Alternates 3, 4, and 2 were selected as the three alternates with the least amount of geotechnical problems.

4) Review of Project Goals/Purpose

Carl Dixon reviewed the project goals and asked if there were any proposed changes. With no suggested changes, he specifically asked if the purpose should state that the proposed project should tie directly into one of the expressways. Someone pointed out that this was included in the official KYTC project description. Based on this and on subsequent discussion throughout the meeting, it was agreed that the statement of project purpose and need should state that the proposed project should tie into either I-24 or the Ford Parkway.

5) Special Considerations

Throughout the meeting, the following special considerations were discussed in varying levels of detail: addressing potential impacts on prime farmland; the importance of a newly proposed agricultural district located east and south of Fredonia and just north of the prison farm property; avoidance of Mill Springs Bluff; consideration of Nature Conservancy concerns about wildlife habitat protection; avoiding or minimizing locating on or near karst/sinkholes in the area; avoidance of and access to the Fredonia quarry; relative impacts on the prison farm; the importance of providing access to the WestPark industrial park mega-site just north of the prison farm; and avoiding or minimizing utility impacts and/or involvement.

From public input through surveys and from consultation with local officials, stakeholders, and individuals at the public meetings, it was agreed by the project team that the major concern of the local residents was the potential impacts on prime farmland, including possible relocations. As a result, it appears that the public in the

study area favors (1) staying along existing US 641 as much as possible on the southern end of the proposed project and (2) providing a western bypass of Fredonia on the northern end of the proposed project. It was also agreed that there is a strong need to provide good truck access to the WestPark industrial mega-site.

6) Proposed Alternatives

a. Review of Alternatives

Carl Dixon led a review and discussion of the proposed alternatives. Generally, it was decided that the project should (1) use as much of existing US 641 as possible, while still meeting the project purpose, and (2) be located west of Fredonia at the northern terminus. After considerable discussion, the project team reached a consensus to dismiss the following alternatives for the reasons discussed herein:

- Alternate 1: May not serve the project purpose adequately because the southern terminus is too far from Eddyville and I-24; has major potential prime farmland impacts; most opposed alternate by the public; opposed by 95% of local officials/stakeholders; probability of geotech problems due to karst topography; opposed by the Western Kentucky Correctional Complex (WKCC) for security reasons; and crosses Atmos Energy gas lines.
- Alternate 1A: May not serve project purpose adequately because southern terminus is too far from Eddyville and I-24; has major potential prime farmland impacts; passes through potential new agricultural district; has second highest number of potential impacts on historic sites; probability of geotech problems due to karst topography; opposed by the WKCC for security reasons; and may cross Atmos Energy gas lines.
- Alternate 2: Although it is the most favored alternate by local officials/stakeholders and the public, it does not adequately meet project purpose to provide improved regional truck access and access to the NHS or Truck Network since it does not connect directly to either I-24 or the Ford Parkway; has second highest number of potential relocations; has highest number of potential impacts on historic sites; and has second highest potential impacts on sewer lines and utility lines.
- Alternate 2A: Does not adequately meet project purpose to provide improved regional truck access and access to the NHS or Truck Network since it does not connect directly to either I-24 or the Ford Parkway; has highest number of potential relocations; has highest potential impacts on sewer lines and utility lines; has major potential farmland impacts near Fredonia; and passes through potential new agricultural district.
- Alternate 3: Does not provide access to the WestPark industrial site; has relatively high potential relocation impacts; could have a major impact on prime farmland since it has one of the two longest sections located on new alignment; and one of the two longest routes which translates into the highest construction cost and increased state maintenance mileage in the future.
- Alternate 3A: Has relatively high potential relocation impacts; could have a major impact on prime farmland since it has one of the two longest sections located on new alignment; one of the two longest routes which translates into the highest construction cost and increased state maintenance mileage in the future; would

impact prime farmland and pass through a potential new agricultural district east of Fredonia; and possibility of karst topography east of Fredonia.

- Alternate 4A: Has major potential farmland impacts and passes through potential new agricultural district near Fredonia.

b. Multimodal/Intermodal Issues

The project team felt that consideration should be given to rail service into and out of the proposed WestPark industrial mega-site. This could include coordinating to provide rail service within the right-of-way of the proposed US 641 project, avoid the need for new rail crossings if possible, and/or ensure that rail overpasses are considered where appropriate. In any case, special consideration should be given to ensuring that good, safe rail access is provided to the WestPark site. No special bicycle/pedestrian facilities were identified as being needed. There was also discussion that the shoulders could be used for bicycles on any new roadway segments where the access was not fully controlled for the type of roadway envisioned, but bicycle/pedestrian accommodations should be considered in accordance with KYTC policy during the next phases of project development.

c. Recommended Alternative(s)

With the elimination of the other seven (7) alternates, the project team agreed that Alternate 4 most closely suited the needs for the proposed project. However, they also felt that it did not adequately meet public concerns and would need some changes.

d. Discussion by Project Team

The project team agreed that a slightly **Revised Version of Alternate 4** should be taken into the next phase of project development to better address public concerns. Specifically, **Alternate 4-Revised** should be relocated to (1) minimize the impacts on farmland and wildlife habitats by using as much of US 641 and staying as close to the farm boundaries as possible, (2) re-align US 641 near the existing Ford Parkway interchange (Exit 4) and re-align US 62 as a T-intersection with US 641, (3) make the Fredonia bypass diverge to the north and west from the existing US 641 as close to Fredonia as deemed practical, and (4) provide for a connector from KY 91 to provide access to the bypass. The consultant was asked to prepare a map with Alternate 4-Revised to be submitted to the KYTC for review and approval.

7) Typical Section

The project team agreed that the typical section should match the section now designed for US 641 between Fredonia and Marion, i.e., a four-lane road with a 60-foot median. Also, the Cabinet should consider full access control, if possible, from the Ford Parkway to existing US 641 near the WestPark industrial mega-site, with partial access control, where possible, for the remaining portion of the proposed project.

8) Priority Sections

The project team agreed that the proposed project should be built from south to north, with the first section from the Ford Parkway to existing US 641, the second section along US 641 to the beginning of the west bypass of Fredonia, and the third section on new alignment beginning as close to Fredonia as deemed practical and ending at the

section already designed north of Fredonia.

9) Next Steps

The consultant will provide the minutes of the meeting and a map of Alternate 4-Revised within the next week or two. A draft report will be completed by the end of Calendar Year 2004, followed by a 30-day KYTC review period. If a timely review schedule is met, then a final report will be submitted by March 2005.

10) Q & A

No additional questions or comments were made.

11) Adjourn

The meeting was adjourned at approximately 1:15 p.m. CST.

AGENDA
Project Team Meeting
Alternatives Study
US 641, Lyon/Caldwell County
Relocate/Reconstruct US 641 from Eddyville to Fredonia
KYTC Item Number: N/A

November 22, 2004
10:00 a.m. CST
District 2 Conference Room
Madisonville, Kentucky

- | | |
|--|--------------------------------|
| 1. Welcome and Introductions | Division of Planning |
| 2. Purpose of Meeting | Division of Planning |
| 3. Review of Input To-Date | Wilbur Smith Associates |
| a. Public Survey Summary | |
| b. Resource Agency Input | |
| 4. Review of Project Goals/Purpose Associates | Wilbur Smith |
| 5. Special Considerations | Wilbur Smith Associates |
| a. Prime Farmland/Agricultural District | |
| b. Mill Springs Bluff | |
| c. Nature Conservancy Issues | |
| d. Karst/Sinkholes | |
| e. Fredonia Quarry | |
| f. Prison Farm/Industrial Site | |
| g. Utilities | |
| 6. Proposed Alternatives | Wilbur Smith Associates |
| a. Review of Alternatives | |
| b. Multimodal/Intermodal Issues | |
| c. Recommended Alternative(s) | |
| d. Discussion by Project Team | |
| 7. Discussion of Typical Section | Wilbur Smith Associates |
| 8. Discussion of Priority Sections | Wilbur Smith Associates |
| 9. Next Steps | Wilbur Smith Associates |
| a. Draft Report | |
| b. Final Report | |
| 10. Q & A | Group Discussion |
| 11. Adjourn | Division of Planning |



10-31-03
382754-Corresp.

James C. Codell, III
Secretary of Transportation

Commonwealth of Kentucky
Transportation Cabinet

Frankfort, Kentucky 40622

Paul E. Patton
Governor

Clifford C. Linkes, P.E.
Deputy Secretary

October 27, 2003

«Mailing_Title» «First_Name» «Last_Name»«Suffix»
«Title»
«Organization»
«Address1»
«Address2»
«City», «State» «Zip»

Dear «Letter_Title» «Last_Name»:

SUBJECT: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from Eddyville to Fredonia

We are requesting your agency's input and comments on a planning study to determine the need and potential impacts for a proposed highway project. The Kentucky Transportation Cabinet has assembled a study team to evaluate the proposed reconstruction or relocation of US 641 from Eddyville in Lyon County to Fredonia in Caldwell County. The study is currently in the initial data-gathering stage.

We ask that you identify specific issues or concerns of your agency that could affect the development of the project. This planning study will include a scoping process for the early identification of potential alternatives, environmental issues, and impacts related to the proposed project. We believe that early identification of issues or concerns can help us develop highway project alternatives to avoid or minimize negative impacts.

We respectfully ask that you provide us with your comments by November 30, 2003, to ensure timely progress in this planning effort.

During the development of this planning study, comments will be solicited from federal, state, and local agencies, as well as other interested persons and the general public, in accordance with principles set forth in the National Environmental Policy Act (NEPA) of 1969. The Federal Highway Administration is partnering with us in these efforts.



«Mailing_Title» «First_Name» «Last_Name»«Suffix»

Page 2

October 27, 2003

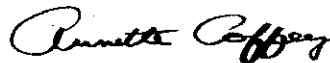
Other Transportation Cabinet offices or consultants working on behalf of the Transportation Cabinet may also contact you seeking more detailed data or information to assist them in completing their environmental studies for this phase of the project.

We have enclosed a project brochure which includes the following information for your review and comment:

- A draft statement of Study Purpose and Project Goals
- Project Location Map
- Year 2003 Traffic and Level of Service
- Year 2025 Traffic and Level of Service
- Accident Information by Accident Severity
- Environmental Footprint

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Jim Wilson of the Division of Planning at 502/564-7183 or at Jimmy.Wilson@mail.state.ky.us. Please address all written correspondence to Annette Coffey, P.E., Director, Division of Planning, Kentucky Transportation Cabinet, 125 Holmes Street, Frankfort, KY 40622.

Sincerely,



Annette Coffey, P.E.
Director
Division of Planning

AC:JCW:NH
Enclosure

c: Jose Sepulveda (w/e)
Glenn Jilek (w/e)
Mary Murray (w/e)
Dan Bozarth
Craig Morris
Marc Williams - WSA
D. Wayne Mosley
Edward Merryman
Tim Choate
Everett Green
Allen Thomas
Kevin McClearn
Steve Hoefler
David Waldner
Richard Davis
Doug Taylor

OTHER PROJECTS

The proposed project addressed in the planning study would connect to another segment of US 641 from Fredonia to Marion that is currently in the design phase. That proposed project would begin on the south side of Marion in Crittenden County, follow a parallel path east of existing US 641, and terminate northwest of Fredonia. The proposed route is being designed as a four-lane roadway with partial control of access (i.e., at-grade intersections at a spacing of no less than 1,200 feet). Construction of two lanes on a four-lane right-of-way is being considered, with the remaining two lanes to be constructed in the future.

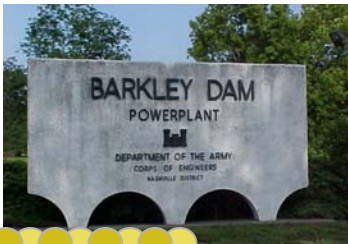


KY 62 / US 641 intersection.

ENVIRONMENTAL DATA

Some environmental issues include:

- Quarry operation in Fredonia
- Wildlife management status in areas where signs are posted
- Impact on and access to farmland



Power plant entrance along US 62 in Lyon County.



View of Barkley Lake along I-24 near Eddyville.



Prime farmland along KY 91 in Caldwell County.



New Bethel Church adjacent to US 641, south of Fredonia.

PUBLIC & AGENCY INPUT

Four public meetings are being held during the course of this study. These are intended to provide information and gain input on the proposed project regarding major issues, potential impacts, and possible alternates. Efforts are also included to coordinate with and get input from local officials, public agency representatives, and others who have a special interest in the project.

The first two public meetings, one each in Eddyville and Fredonia, are to inform the public about the project and request input on preliminary project issues. The second two meetings, also in Eddyville and Fredonia, are to present information and get input on the proposed alternatives.

To assist in keeping the public and agencies informed, information will be added to the KYTC's Division of Planning website:

<http://www.kytc.state.ky.us/planning/index2.asp>

This website will be updated on a regular basis as new information becomes available.

CONTACT INFORMATION



Address written comments to:

Annette Coffey, P.E.

or

Daryl Greer, P.E.

Kentucky Transportation Cabinet
Division of Planning
125 Holmes Street
Frankfort, KY 40622

Or you may contact by phone:

Jimmy Wilson

Project Manager

Kentucky Transportation Cabinet
Division of Planning
(502) 564-7183

jimmy.wilson@mail.state.ky.us

You may also look for project information at:

www.kytc.state.ky.us/planning/index2.asp



Reconstruction/Relocation of From Eddyville to Fredonia



LYON & CALDWELL COUNTIES

The Kentucky Transportation Cabinet (KYTC) is undertaking an alternatives planning study for the proposed reconstruction/relocation of US 641 from Eddyville in Lyon County to Fredonia in Caldwell County. No funds are available at this time for the design or construction of this project.

The planning study will (1) analyze existing conditions (including transportation, environmental, and socioeconomic issues), (2) estimate future traffic demand, and (3) identify and evaluate potential alternatives for the proposed project. Throughout the planning process, comments, concerns, suggestions, and insight from the general public and local officials will be documented and considered.

The existing US 641 corridor between Eddyville and Fredonia is a two-lane roadway with 10- to 12-foot lanes and varying shoulder widths and types. The posted speed limit is 35 mph in urban areas and ranges from 45 mph to 55 mph in rural areas. US 641 carries an average daily traffic (ADT) volume between 3,080 and 3,400 vehicles per day and provides access south between Fredonia and US 62, I-24, and the Wendell H. Ford (Western Kentucky) Parkway.

PRELIMINARY

Goals

The following were identified as preliminary goals for the project:

Provide improved regional access along a reconstructed highway or an alternate route that will:

- Allow the designation of the route for the legal operation of 102-inch wide trucks between Eddyville and Fredonia;
- Provide improved access to the National Truck Network and National Highway System to support economic development initiatives in the region; and
- Provide improved access from north of and in the vicinity of Eddyville to regional recreational and tourist areas, including Lake Barkley and Kentucky Lake.

PROJECT ISSUES

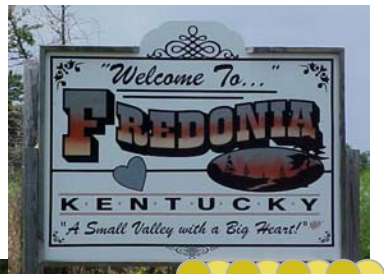
There are a number of issues that will be explored as part of this planning study. Some of these issues include:

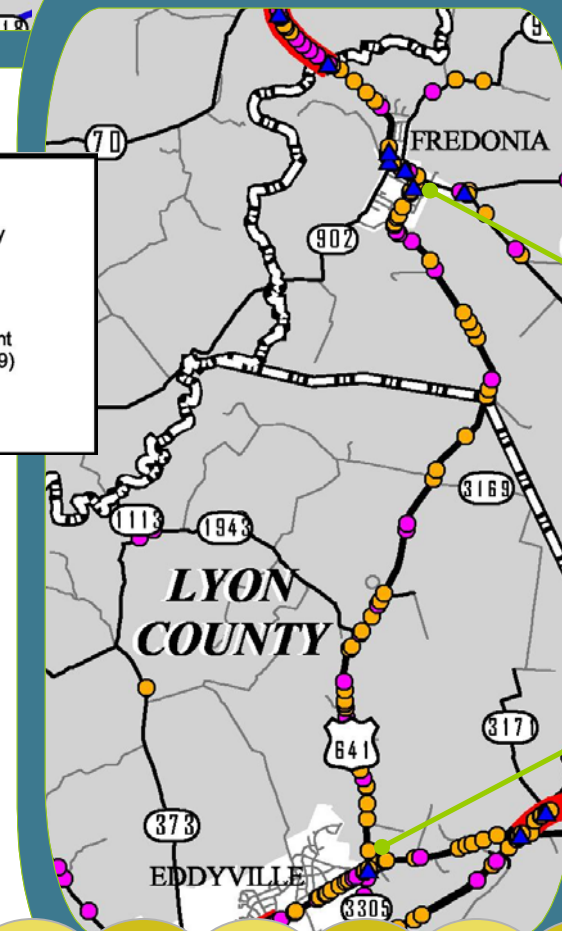
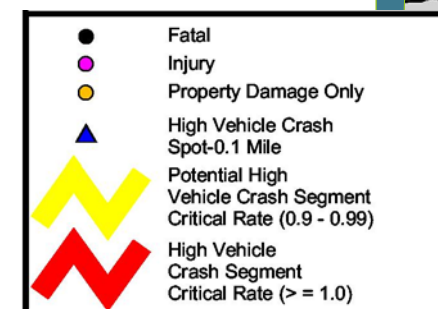
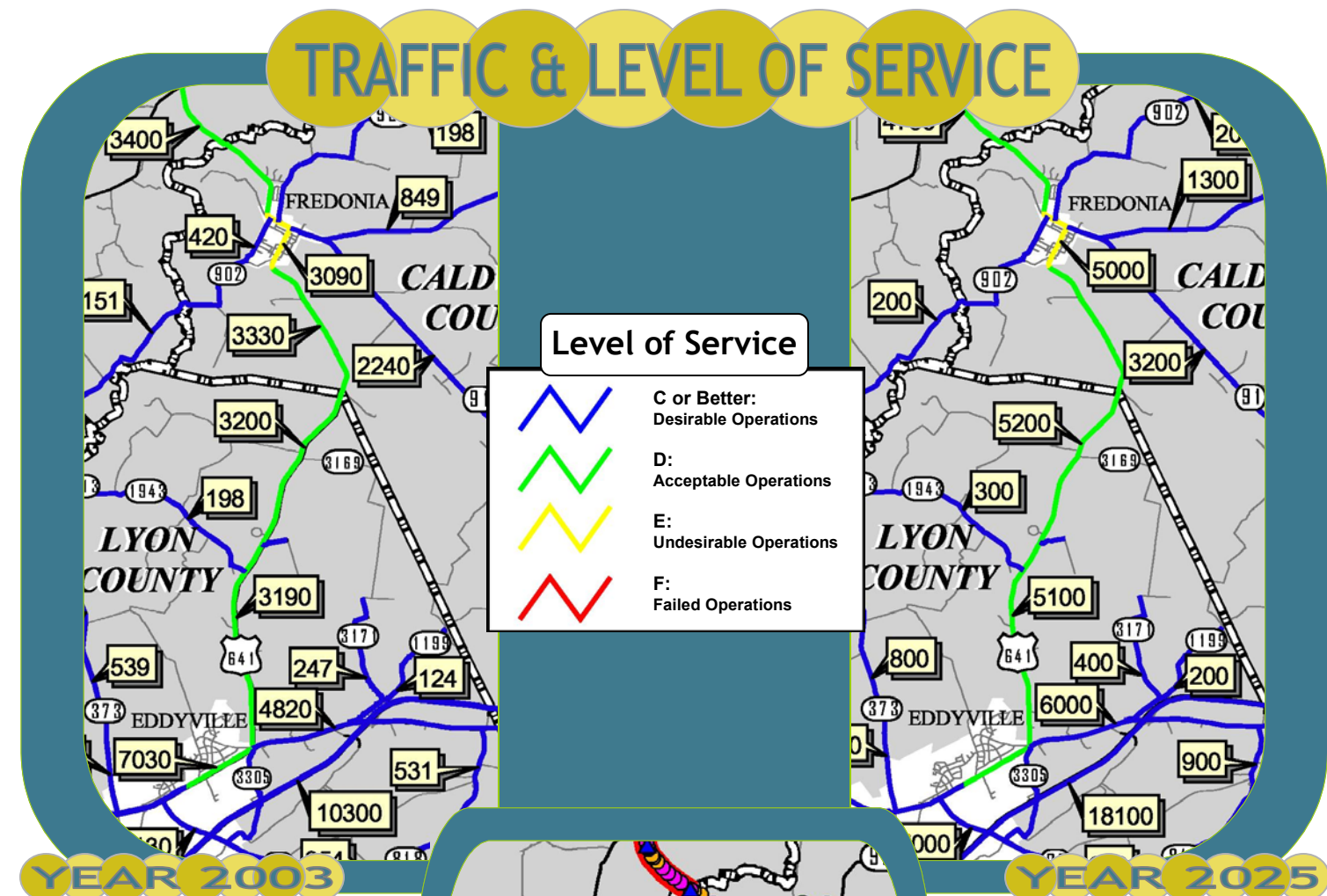
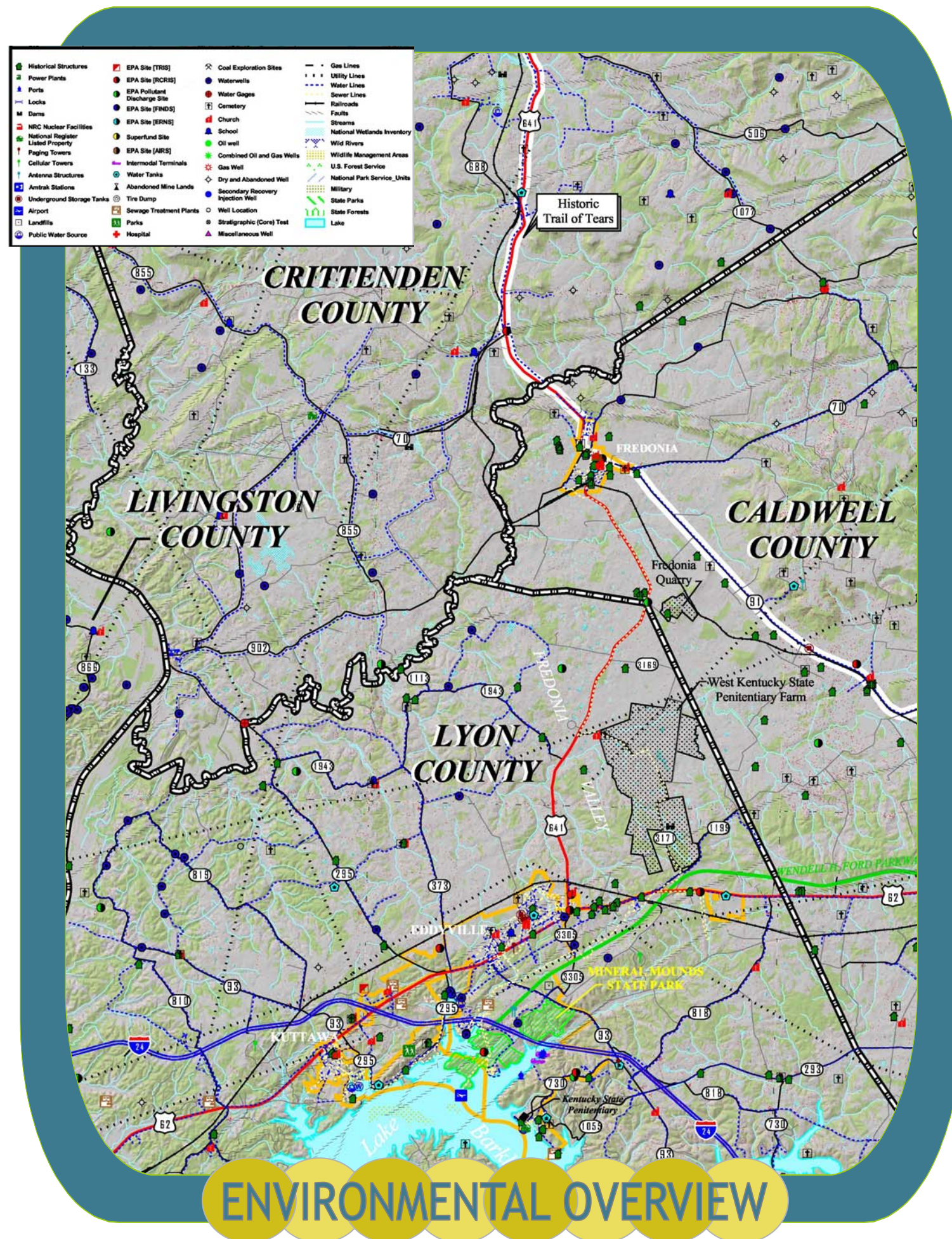
- Access for 102-inch wide trucks
- Connectivity between other major roadways
- Serving the site of a proposed industrial park, southeast of Fredonia
- Safety and capacity concerns
- Recreation and tourism access
- Other highway projects in the area

Typical section along US 641 in Lyon & Caldwell Counties.



Entrance to Fredonia.





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3385 Airways Blvd., Suite 302
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Department of Parks
10th, floor, Capital Plaza Tower, 500 Mero St.
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Regional Environmental Officer
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Kentucky Economic Development Cabinet
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Sierra Club
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United States Senator
United States Senate
316 Hart Senate Office Building
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Mr. William Howard
Executive Director
Kentucky Association of Riverports, Henderson County
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Bridge Administrator
United States Coast Guard, Bridge Branch
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St. Louis, MO 63103

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United States Senator
United States Senate
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Washington, DC 20510

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U. S. Army Corps of Engineers, Louisville District
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United States Representative, 1st District
U. S. House of Representatives
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The Honorable Michael Alexander
Mayor
City of Marion
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Marion, KY 42064

The Honorable Victor Hardin
Hardin County Judge/Executive
Crittenden County Courthouse
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Marion, KY 42064

The Honorable Van Knight
Caldwell County Judge/Executive
Caldwell County Courthouse
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Marion, KY 42445

The Honorable J. R. Gray
Kentucky State Representative, 6th District
3188 Mayfield Highway
Benton, KY 42025

The Honorable Michael E. Cherry
Kentucky State Representative, 4th District
803 S Jefferson Street
Princeton, KY 42445

The Honorable Bob Jackson
Kentucky State Senator, 1st District
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The Honorable Paul Herron, Jr.
Kentucky State Senator, 4th District
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The Honorable Lee McCollum
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Dr. Lee Gold
School Superintendent
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Mr. Bill Robertson
Chairman
Planning Commission
115 Stetson Drive
Eddyville, KY 42038



**Crittenden County
Economic Development Corp.**

DIV OF PLANNING

2002 DEC -1 A 11: 34

November 26, 2003

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Stephen Davidson
President/CEO
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(877) 698-1788
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Gareth Hardin, V-Chair
Terry Ford, Treasurer
Michael Alexander
Michael Byford
Zac Greenwell
Gordon Guess
Victor "Pippi" Hardin
Alan Stout
Chris Sutton
Glenn Underdown

Dear Ms. Coffey:

Thank you for the opportunity to offer input and comments for the US 641 highway project from Eddyville in Lyon County to Fredonia in Caldwell County. This input is provided on behalf of the Board of Directors of the Crittenden County Economic Development Corp. (CCEDC) in Marion.

The CCEDC strongly endorses the route from Eddyville to Fredonia. The CCEDC has identified no issues or concerns that could adversely affect the development of the project. Indeed, with the forthcoming development of the 5-county Pennyriple WestPark Industrial Park on 800 acres on state-owned property adjacent to the Eddyville State Prison Farm, it is critical that the "new" 641 be in close proximity to this mega park. Please note that the five counties involved in the project are Caldwell, Crittenden, Livingston, Lyon, and Trigg.

Attracting large manufacturing companies to the park will hinge greatly on whether there is a 4-lane highway that brings industrial transportation to and from the park. Consequently, the CCEDC Board of Directors urges the KTC to consider the 641 Eddyville to Fredonia route which will link to the Fredonia to Marion route.

Please feel free to contact me, should you require further input from our organization.

Sincerely,

Stephen D. Davidson, President/CEO

Cc: Mr. Greg Moore, Chairman, CCEDC Board of Directors
Hon. Pippi Hardin, Crittenden County Judge Executive
Mr. Chris Sutton, Assistant Director, Pennyriple Area Development District

Wilson, Jimmy (KYTC)

From: JR & Yvonne Gray [grayhouse@vci.net]
Sent: Saturday, November 15, 2003 9:54 PM
To: Jimmy.Wilson@mail.state.ky.us
Subject: Planning Study--Lyon and Caldwell Counties--641 highway, Fredonia to Eddyville

Jimmy: Regarding the solicitation for input on the above referenced project, please be advised as follows regarding my most sincere beliefs:

I have no particular concerns regarding the portion of the highway in and around the close proximity of Fredonia so long as traffic flow is basically unimpeded.

My main concern is the location of the highway in the general proximity of the Western Kentucky Farm Center which is currently controlled and/or operated by the Department of Corrections.

I am sure that you have been made aware of the intent of the Commonwealth of Kentucky to make approximately 500 acres of this farm available to Lyon, Livingston, Crittenden, Caldwell and Trigg Counties, as Pennyriple Industrial Park West, with hopes of attracting a sizable industry.

A large industry at this location will hopefully spawn opportunities for feeder and/or user industries in the other industrial parks in and around Eddyville and Lyon County.

In consideration of the above, it is my well considered opinion that the new or improved roadway should be located close to the Pennyriple Industrial West Park site in order to maximize its marketability to potential industries.

For free flow of traffic and accessibility of the industrial sight, I feel that easy access should be provided to Interstate 24 and/or the Western Kentucky Parkway.

Thank you for the opportunity for input regarding this most important project.

J. R. Gray, State Representative
Sixth House District
3188 Mayfield Hwy.
Benton, KY 42025

11/17/2003



PAUL E. PATTON
GOVERNOR

CABINET FOR WORKFORCE DEVELOPMENT
OFFICE OF THE SECRETARY
CAPITAL PLAZA TOWER, 2nd FLOOR
500 MERO STREET
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-6606 FAX (502) 564-7967

DIV OF PLANNING

2003 NOV 25 P 2: 28

W. H. LILE
SECRETARY

CONNECTING KENTUCKY TO EMPLOYMENT, WORKFORCE INFORMATION, EDUCATION AND TRAINING.

July 21, 2003

Ms. Annette Coffey, P.E.
Transportation Cabinet
Division of Planning
125 Holmes Street
Frankfort, KY 40622

Dear Ms. Coffey:

Re: Planning Study
Lyon and Caldwell Counties
U S 641, Eddyville to Fredonia

Thank you for the opportunity to respond to the Planning Study for US 641, from Eddyville to Fredonia. As Secretary of the Cabinet for Workforce Development, I believe that a good motor transportation route is of key importance to the goals of this agency. This agency is instrumental in working with the Economic Development Cabinet, the Education Cabinet, the Technical College System and other private and public entities in providing a well-trained workforce, thereby attracting industry and sustaining the state's economy. Such a workforce is now in existence throughout Kentucky and it grows stronger each year. However, the absence of adequate roadways, railways, waterways and air transportation systems is definitely detrimental to industrial growth and the economic development of the Commonwealth.

After reviewing the site plan for the construction of a new highway in the area described, I find that the Cabinet for Workforce Development has no objection to the project and I find no negative impact occurring upon the services provided by this agency. In fact, an improved roadway would most likely facilitate industrial development, residential development, and promote the growth of educational facilities throughout the region. I fully support the concept of a new roadway and wish you well in completing the project.



EQUAL EDUCATION AND EMPLOYMENT OPPORTUNITIES M/F/D

At this time, other than financial concerns due to the economic downturn and geographical considerations, I see no reason why the project should not be a major success for the citizens of this state. I remain available should you have additional questions. Thank you again for allowing me the opportunity for input.

Sincerely,

A handwritten signature in cursive script, appearing to read "W. H. Lile".

W. H. Lile, Secretary
Cabinet for Workforce Development

WL/



DIV OF PLANNING

DEPARTMENT OF CORRECTIONS
WESTERN KENTUCKY CORRECTIONAL COMPLEX
374 NEW BETHEL ROAD
FREDONIA, KY 42411
(270) 388-9781

NOV 11 2003 DEC -1 A 11: 33

November 12, 2003

Ms. Annette Coffey, P. E.
Director, Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Dear Ms. Coffey:

In your correspondence dated October 27, 2003, you requested to be informed of any concerns we might have in reference to the new route for Highway 641.

Our mission is to provide, for the public, safety by maintaining custody and control of the residents housed at the Western Kentucky Correctional Complex; therefore, it would be our preference that the new highway not come any closer to the institution than the present situation.

If we may be of further assistance, please feel free to advise of such.

Respectfully,

Dale M. Watson
Warden



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

WILDLIFE COMMISSION

right, Paducah
Bowling Green
Gailor, Louisville
Southall, Elizabethtown
Dr. James R. Rich, Taylor Mill, Chairman
Ben Frank Brown, Richmond
Doug Hensley, Hazard
Dr. Robert C. Webb, Grayson
David H. Godby, Somerset



**COMMONWEALTH OF KENTUCKY
DEPARTMENT OF FISH AND WILDLIFE RESOURCES
C. THOMAS BENNETT, COMMISSIONER**

November 13, 2003

DIV OF PLANNING
2003 NOV 19 A 11:37

Annette Coffey, P.E.
Director, Division of Planning
KY Transportation Cabinet
125 Holmes Street
Frankfort, KY 40602

RE: Threatened/endangered species, critical habitat review, and potential environmental impacts for the US 641 Reconstruction, Lyon and Caldwell Counties, Kentucky.

Dear Ms. Coffey:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System indicates that the federally endangered Indiana bat and Gray bat are known to occur in the Fredonia 7.5 minute USGS quadrangle (see attachment). The bald eagle and pink mucket are known to occur in the Eddyville quadrangle. Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

The Kentucky Fish and Wildlife Information System (KFWIS) indicates that state threatened or endangered (T&E) species are known to occur in the Eddyville and Fredonia 7.5 minute USGS quadrangle (see attached list). Please use necessary precautions to minimize any impact this project may have on these species.

Based on this information, KDFWR makes the following recommendations.

In quadrangles in which gray bats are known to occur, any cave entrances that exist within the project area (i.e. the right-of-way and regeneration sites) should be surveyed for potential use by gray bats. Because gray bats are cave residents year-round and maternity colonies are generally found in close proximity to rivers, streams and lakes, any caves within the project area could offer potentially valuable habitat to resident gray bats. If a bat survey is necessary, please contact this office at (502) 564-7109 or the US Fish and Wildlife Service office at (502) 695-04681 for information on how to proceed.

In quadrangles in which Indiana bats are known to occur, any wooded areas that may be impacted by the proposed project should be examined for potential Indiana bat habitat. Indiana bats form maternity colonies and roost under the bark of trees in both riparian and upland areas. Therefore, disturbance of trees with exfoliating bark, dead limbs or cavities should be avoided when bat activity may occur. If a bat survey is necessary, please contact this office at (502) 564-7109 or the US Fish and Wildlife Service office at (502) 695-0468 for information on how to proceed.



Page Two
Ms. Coffey
November 13, 2003

The KDFWR recommends that you contact the appropriate US Corps of Engineers office (Louisville COE (502) 582-5452) and the Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water (502) 564-3410 prior to any excavation within the waterways of Kentucky. Additionally, KDFWR recommends the following for the portions of the project that cross intermittent or perennial streams:

1. Development/excavation during a low flow period to minimize disturbance;
2. Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt to the stream;
3. Replanting of disturbed areas after construction, including stream banks and right-of-ways, with native vegetation for soil stabilization and enhancement of fish and wildlife populations;
4. Return all disturbed instream habitat to its original condition upon completion of construction in the area;
5. Preservation of any tree canopy overhanging the stream;
6. Return all right-of-ways to original elevation.

I hope this information proves useful to you. If you have any questions or require additional comment, please call me at the above listed number, extension 366.

Sincerely,



Brad Pendley
Wildlife Biologist II
cc: Environmental Section File

COMMONNAME	SCIENTIFIC	COUNTYNAME	QUADNAME	FEDERAL	STATE
INDIANA BAT	Myotis sodalis	CALDWELL	FREDONIA	LE	E
PINK MUCKET	Lampsilis abrupta	LYON	EDDYVILLE	LE	E
GRAY MYOTIS	Myotis grisescens	CALDWELL	FREDONIA	LE	E
BALD EAGLE	Haliaeetus leucocephalus	LYON	EDDYVILLE	LT	E
SPOTTAIL SHINER	Notropis hudsonius	CRITTENDEN	FREDONIA	N	S
GREAT BLUE HERON	Ardea herodias	LYON	EDDYVILLE	N	S
RABBITSFOOT	Quadrula cylindrica cylindrica	LYON	EDDYVILLE	N	T
BARKING TREEFROG	Hyla gratiosa	CALDWELL	FREDONIA	N	S
CHAIN PICKEREL	Esox niger	LYON	EDDYVILLE	N	S
SEDGE WREN	Cistothorus platensis	LYON	FREDONIA	N	S
CHESTNUT LAMPREY	Ichthyomyzon castaneus	LYON	EDDYVILLE	N	S
BLACK BUFFALO	Ictiobus niger	LYON	EDDYVILLE	N	S
BARKING TREEFROG	Hyla gratiosa	LYON	FREDONIA	N	S
POCKETBOOK	Lampsilis ovata	LYON	EDDYVILLE	N	E
GREAT BLUE HERON	Ardea herodias	CRITTENDEN	FREDONIA	N	S
OSPREY	Pandion haliaetus	LYON	EDDYVILLE	N	T

HENRY C. LIST
SECRETARY



PAUL E. PATTON
GOVERNOR

DIV OF PLANNING

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET

DEPARTMENT FOR SURFACE MINING RECLAMATION & ENFORCEMENT
FRANKFORT, KENTUCKY 40601

CARL E. CAMPBELL
COMMISSIONER

2003 NOV 26 P 2:15

November 24, 2003

Annette Coffey, P.E., Director
Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 40622

RE: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from Eddyville to Fredonia

Dear Ms. Coffey:

Thank you for the opportunity to review and comment on the above referenced proposed highway project.

Personnel from our department's field offices have conducted a review of the information provided and have identified one active rock quarry located just east of US 641 between Eddyville and Fredonia on the Lyon and Caldwell county line. This quarry is permitted under the name of Martin Marietta Materials, Inc. (Permit Number 017-9403). The local address is 297 Fredonia Quarry Road, Fredonia, Kentucky 42411. The Latitude is 37° 10' 32" – Longitude 88° 01' 48" on the Fredonia quadrangle.

If my staff or I may be of any further assistance in this or any other matter, please do not hesitate to contact me at (502) 564-6940.

Sincerely,

Carl E. Campbell
Carl E. Campbell
Commissioner

CEC:JM:kac



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Printed on Recycled Paper

Wilson, Jimmy (KYTC)

From: Greer, Daryl (KYTC)
Sent: Wednesday, November 19, 2003 2:23 PM
To: Wilson, Jimmy (KYTC)
Cc: Tucker, Joseph (KYTC)
Subject: FW: Planning Studies

-----Original Message-----

From: Coffey, Annette (KYTC)
Sent: Wednesday, November 19, 2003 1:42 PM
To: Prewitt, Ben (KYTC)
Cc: Greer, Daryl (KYTC)
Subject: RE: Planning Studies

Thank you!

-----Original Message-----

From: Prewitt, Ben (KYTC)
Sent: Wednesday, November 19, 2003 1:41 PM
To: Coffey, Annette (KYTC)
Subject: Planning Studies

Our office finds that the proposed reconstruction/relocation of US 641 in Lyon and Caldwell Counties should not affect any public Kentucky airport. Insofar as Item #02-8102.00, in Union County, there should be no concern, unless KY 109, near the Sturgis Airport, is relocated/reconstructed.

HENRY C. LIST
SECRETARY



PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY
803 SCHENKEL LN
FRANKFORT KY 40601-1403

November 6, 2003

DIV OF PLANNING
2003 NOV 10 A 11:31

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 40622

Dear Ms. Coffey:

The Division has reviewed the Planning Study for the proposed reconstruction or relocation of US 641 from Eddyville in Lyon County to Fredonia in Caldwell County. The following Kentucky Administrative Regulations apply to this proposed project:

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the attached Fugitive Emissions Fact Sheet.

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the attached Open Burning Fact Sheet incorporated by reference in 401 KAR 63:005 Section 3, Prohibition of Open Burning.

Finally, the projects listed in this document must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of United States Code.

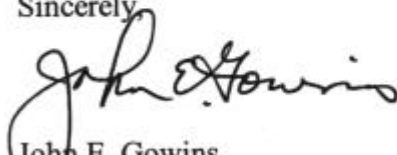


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Ms. Annette Coffey Letter
November 6, 2003
Page 2

Every effort should be made to maintain compliance with the preceding regulations and requirements. The Division also suggests an investigation into compliance with applicable regulations in the local governments. If there are any questions relating to this matter, please contact me at (502) 573-3382 extension 347.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Gowins". The signature is fluid and cursive, with the first name "John" being more prominent.

John E. Gowins
Supervisor, Evaluation Section
Program Planning & Administration Branch

JEG/jmf

Attachments

Kentucky Intergovernmental Review Process

Division for Air Quality – Fugitive Emissions Comments

The project to which this comment is attached involves construction, renovation, demolition, or some other activity, which might result in the generation of fugitive emissions. The Kentucky Division for Air Quality conditionally approves the proposed project, contingent upon conformance with regulatory requirements for fugitive emissions. The information listed below provides guidelines on Kentucky's fugitive emissions regulations:

Fugitive Emissions means the emissions of any air contaminant into the open air other than from a stack or air pollution control equipment exhaust.

Affected Facility means an apparatus, operation, road which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

Open Air means the air outside buildings, structures, and equipment.

Kentucky Division for Air Quality Regulation 401 KAR 63:010 states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired, or demolished, or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

- Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operation, the grading of roads or the clearing of land.
- Application and maintenance of asphalt, oil, water, or suitable chemicals on roads materials stockpiles, and other surfaces which can create airborne dusts.
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emission during handling. Adequate containment methods shall be employed during sandblasting or other similar operations.
- Covering at all times, when in motion, open bodied trucks transporting materials likely to become airborne.
- The maintenance of paved roadways in a clean condition.
- The prompt removal of earth or other material from a paved street, which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water.

- No person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate.
- When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may order that the building or equipment in which processing, handling, and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.
- The provisions of this administrative regulation shall not apply to agricultural practices, such as tilling of the land or application of fertilizers, which take place on a farm.
- At all times when in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered.
- Agricultural practices, such as tillage of land or application of fertilizers, which take place on a farm shall be conducted in such a manner as to not create a nuisance to others residing in the area. Agricultural practices are not subject to the opacity standard.
- The provisions of Section 3(1) and (2) of this administrative regulation shall not be applicable to temporary blasting or construction operations.
- No one shall allow earth or other materials being transported by truck or earth moving equipment to be deposited onto a paved street or roadway.

The requirements for Fugitive Emissions may found in the following regulation:

401 KAR 63:010 Fugitive Emissions

Questions may be directed to the Division for Air Quality, Field Operations Branch, at 502-573-3382.

Kentucky Intergovernmental Review Process

Division for Air Quality – Open Burning Comments

The project to which this comment is attached involves construction, renovation, demolition, or some other activity which might result in the accumulation of materials and/or debris which is subject to disposal. The Kentucky Division for Air Quality conditionally approves the proposed project, contingent upon conformance with open burning prohibitions. Open burning is generally prohibited and the information listed below provides guidelines on Kentucky's open burning regulations:

Open burning means the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney.

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that no person shall open burn. Fires may be set for the following purposes, provided that they do not violate any of the provisions of KRS Chapter 149, 150, 227, or any other law of the Commonwealth of Kentucky, including local ordinances:

- Noncommercial food preparation for human consumption.
- Recreational or ceremonial purposes.
- Comfort heating, providing excessive or unusual smoke is not created.
- Weed abatement, disease, and pest prevention.
- Prevention of a fire hazard, including the disposal of dangerous materials where no safe alternative is available.
- Bona fide instruction and training of public and industrial employees in the methods of fighting fires.
- Recognized agricultural, silvicultural, range, and wildlife management practices.
- Burning of leaves by individual homeowners except in cities with populations greater than 8,000.
- Disposal of household paper products, originating at dwellings of five (5) family units or less, which fires are maintained by an occupant of the dwelling at the dwelling, except in cities with populations greater than 8,000.
- Disposing of accidental spills leaks of crude oil, petroleum products or other organic materials, and the disposal of absorbent material used in their removal, where no other economically feasible means of disposal is available and practical and provided permission is obtained from the Cabinet prior to burning.
- Disposal of natural growth for land clearing, and trees and tree limbs felled by storms, provided that no extraneous material such as tires or heavy oil which tend to produce dense smoke are used to cause ignition or aid combustion and the burning is done on sunny days with mild winds. With respect to particulate matter, the emissions from such fires shall not be equal to or greater than 40% opacity.

The Division of Forestry advises that precautions be taken when open burning materials which can be burned. Burn only between 4:30pm and midnight, if you are within 150 feet of the woods during spring and fall fire hazard season (March 1 – May 15 & October 1 – December 15). During other months of the year, the Division for Air Quality however, advises to burn legal materials on sunny days with mild winds, in order to have conditions for good dispersion of the pollutants.

The environmental concerns relating to air quality include the toxic emissions from the combustion of asphaltic shingles, painted or treated wood, insulation on wiring, and synthetic materials such as carpeting, carpet pads, and upholstery; lead from lead based painted materials; and asbestos emissions from pipe lagging, transite siding shingles, or asbestos contained in asphaltic roofing shingles. Applicable air quality regulations include:

- | | |
|----------------|--|
| 401 KAR 63:005 | Open burning; |
| 401 KAR 63:020 | Potentially hazardous matter or toxic substances; |
| 401 KAR 63:022 | New or modified sources emitting toxic air pollutants; |
| 401 KAR 57:011 | Asbestos standards (NESHAP); and |
| 401 KAR 63:042 | Requirements for asbestos abatement entities. |

Questions may be directed to the Division for Air Quality, Field Operations Branch, at 502-573-3382.

C-17 Geotech
Blevins

A-2

MEMORANDUM

PLANNING
DIVISION

2003 DEC -1 A 11:28

TO: Annette Coffey, P.E.
Director
Division of Planning

FROM: William Broyles P. E.
Geotechnical Engineering
Branch Manager
Division of Materials

BY: Michael Blevins P. G. *MB*
Geotechnical Branch

DATE: November 26, 2003

SUBJECT: Lyon and Caldwell Counties
Planning Study
US 641, Eddyville - Fredonia

The Branch has completed a review of the study area. The project is located within the Eddyville and Fredonia Geologic Quadrangle. The study area is underlain with Quaternary Alluvium which is mainly clay and silts with minor amounts of sand and gravel along the stream valleys with a depth up to 60 feet thick. Bedrock in the study area includes the Ste. Genevieve Limestone, St. Louis Limestone, and Salem Limestone.

The Ste. Genevieve Limestone is divided into three members, the Levias Limestone Member, Rosiclare Sandstone Member and Fredonia Limestone Member. Surface streams are rarely found over this formation and sinkholes are very common as shown on the attached geologic map.

The St. Louis Limestone and Salem Limestone are chiefly Limestone Formations with minor amounts of shale occurring as interbeds. The St. Louis Limestone is divided into two members, (the upper and lower member). Sinkholes are common in the upper member of this formation. The formations are indicated on the attached map for reference.

Several faults exist in the vicinity of Eddyville. These faults trend Northeast – Southwest. The existing 641 route crosses one of the faults and any alternates will cross the same fault.

Memorandum
Annette Coffey
November 26, 2003
Page-2-

The geotechnical concerns are as follows:

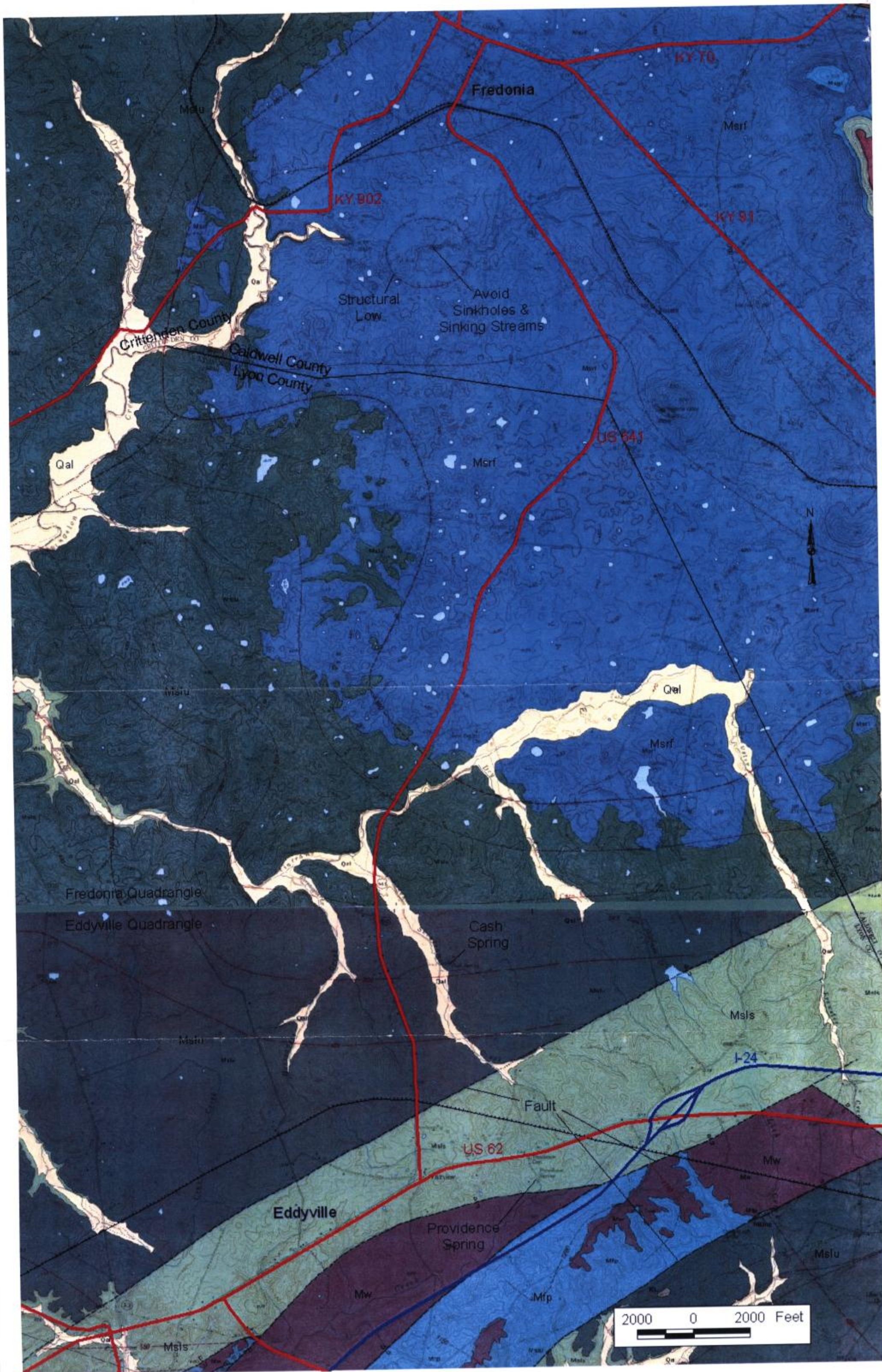
1) Due to the faulting in the vicinity of Eddyville, any bedrock encountered in the cut sections will likely contain many fractures and joints. Cut slopes in rock may be required to be flatter than normal.

2) Several springs are indicated on the geologic map. The branch recommends avoiding these. Unmapped springs may also be present and field investigations should be completed before any final alternates are chosen. The springs are located on the attached geologic map.

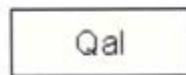
3) Many sinkholes are indicated on the attached geologic map. It is preferred to avoid as many sinkholes as possible. Mitigation measures of surface runoff into sinkholes may be required to protect ground water quality and contamination from possible hazardous spills. These may include grass lined ditches and/or retention basins.

4) A structural low exist on the Fredonia Quadrangle and has numerous sinkholes developed within the area. An unnamed surface stream flows into the sinkholes around the structural low. To avoid disturbing any sinkholes, filling over sinkholes, and prevent possible flooding of this area, all alternate corridors should avoid this area.

If there are any questions, please advise.



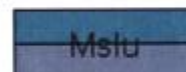
Geologic Explanation



Alluvium



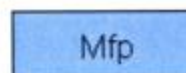
Ste. Genevieve Limestone
Rosiclare Sandstone and Fredonia
Limestone Members



upper member of St. Louis Limestone



lower member of St. Louis Limestone
and Salem Limestone



Fort Payne Formation

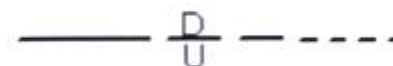


Warsaw Limestone



Contact

Dashed where approximately located; short dashed where inferred, indefinite or gradational; dotted where concealed



Fault

Dashed where approximately located; short dashed where inferred, dotted where concealed. U, upthrown side; D, downthrown side



Drawn on base of Bethel Sandstone. Long dashed where datum is above land surface. Arrow indicates direction of dip. Hachures indicate closed basin. Contour interval 50 feet. Contours not shown where data insufficient



Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

DIV OF PLANNING

2003 OCT 28 P 2: 41

James C. Codell, III
Secretary of Transportation

Paul E. Patton
Governor

Clifford C. Linkes, P.E.
Deputy Secretary

MEMORANDUM

TO: Annette Coffey, P.E.
Director
Division of Planning

FROM: Phillip Mann
Acting Branch Manager
Permits Branch *PM m.ese*

DATE: October 28, 2003

RE: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from Eddyville to Fredonia

The Permits Branch has reviewed the data provided for subject study site and wish to offer the following.

1. We urge the Cabinet to classify this project and all new projects as partially controlled access facilities.
2. Assuming the project is partial control access, we encourage all possible access points be set on the plans in accordance with 603 KAR 5:120, even if they are not to be constructed at that time.
3. When buying R/W for this and all reconstruction routes, assuming the access control is partial control, new deed for all adjoining property owners need to be executed to identify the access control even if no new R/W is acquired,
4. In addition, we would like to make every effort possible to have the design speed to be the same as anticipated posted speed when the project is complete.
5. We would like to see access control fence installed with the project.
6. If the proposed roadway is to be on the N. H. S., early notification of the final line and grade is needed. This enables us to monitor outdoor advertising devices prior to road construction being completed.
7. Please notify this office if the proposed roadway is to be placed on the National Highway System. This information is needed to assist this office in regulating the installation of any outdoor advertising device.

Thank you for the opportunity to verbalize our concerns.

DPM/elc



Wilson, Jimmy (KYTC)

From: Ballard, Kim (NREPC, DEP)
Sent: Tuesday, November 18, 2003 2:05 PM
To: Wilson, Jimmy (KYTC)
Cc: Hatton, Tony (NREPC, DEP)
Subject: DOT Planning Study-Lyon & Caldwell Counties

On behalf of Tony Hatton, Acting Director:

Division of Waste Management's comments on:
Planning Study
Lyon & Caldwell Counties

Resource Conservation & Local Assistance Branch (contact Tom Heil):
Request the use of Pulverized Glass Aggregate (PGA) in roadbed construction, where feasible.

Superfund Branch (contact Fazi Sherkat):



Superfund Sites By
County For ...

Underground Storage Tank Branch (contact Lori Terry):



caldwell_lyon_dot.xls

County Name LOGAN

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
17243	ROCKWELL INTERNATIONAL	02/16/2001	HAZARDOUS SUBSTANCE POLLUTANT/CONTAMINANT	PCBS	CLOSED	Russellville			STATE SUPERFUND
20212	RUSSELLVILLE 1959	02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
20213	RUSSELLVILLE 2 1960	02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
32959	RUSSELLVILLE BURNING	05/12/1994	POLLUTANT/CONTAMINANT	OPEN BURNING	CLOSED	RUSSELLVILLE	36.84528	-86.88722	STATE SUPERFUND
17244	RUSSELLVILLE CITY DUMP	02/16/2001			ACTIVE	Russellville			STATE SUPERFUND
47906	RUSSELLVILLE NAT. GUARD ARMORY	03/16/1998	PETROLEUM	FACILITY SPILL	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
17370	RUSSELLVILLE SANITATION CO. LANDFILL #071.05	02/20/2001			ACTIVE	Russellville			STATE SUPERFUND
17372	RUSSELLVILLE SANITATION CO. LANDFILL #071.06	02/20/2001			ACTIVE	Russellville			STATE SUPERFUND
17373	RUSSELLVILLE SANITATION COMPANY	02/20/2001			ACTIVE	Russellville			STATE SUPERFUND
20512	SHIFFLETT PROPERTY	01/12/1994	HAZARDOUS SUBSTANCE	ILLEGAL HAZWASTE DISPOSAL	ACTIVE	RUSSELLVILLE	36.8656	-86.8638	STATE SUPERFUND
110268	STOKER WELL	04/09/2003	HAZARDOUS SUBSTANCE	GROUNDWATER (POTABLE) OTHER	ACTIVE	RUSSELLVILLE	36.825944	-86.91269	STATE SUPERFUND
43905	TARCO	03/14/1997			CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
17236	TVA - HOMER L. OWENS SUBSTATION CAPACITORS	02/16/2001			ACTIVE	Russellville			STATE SUPERFUND
58823	VENTRA PLASTICS	09/26/2002		FACILITY SPILL	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
110055	VENTRA PLASTICS	05/15/2003		FACILITY SPILL	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
60388	VENTRA PLASTICS	09/27/2002		FACILITY SPILL	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM

Count of sites in LOGANCounty 34

County Name LYON

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
11296	BOYDS LANDING - COAST GUARD AID	09/26/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	ACTIVE		36.9935	-88.1658	STATE SUPERFUND
51646	CWM RESOURCE MANAGEMENT	02/02/1999	HAZARDOUS SUBSTANCE	LEAKING CARGO	CLOSED	EDDYVILLE			STATE SUPERFUND
20184	EDDYVILLE 1886	02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	EDDYVILLE	37.09444	-88.08028	PETROLEUM
11298	HAYES LANDING - COAST GUARD AID	09/26/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	ACTIVE		36.9632	-88.0377	STATE SUPERFUND
20179	KUTTAWA 1480C	02/12/1998		GAS PIPELINES	CLOSED	KUTTAWA	37.05889	-88.1325	PETROLEUM
54305	KUTTAWA FIRE/EXPLOSION	11/22/1999	HAZARDOUS SUBSTANCE	FIRE/EXPLOSION	CLOSED	KUTTAWA	37.05889	-88.1325	STATE SUPERFUND
20232	KUTTAWA KY 1480	02/12/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	KUTTAWA	37.05889	-88.1325	PETROLEUM
11355	LIVINGSTON - COAST GUARD AID	09/27/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	ACTIVE	KUTTAWA	37.001	-88.134	STATE SUPERFUND
20533	LYON COUNTY DRUMS	01/11/1994	POLLUTANT/CONTAMINANT	ABANDONED DRUMS	CLOSED	EDDYVILLE	37.09444	-88.08028	STATE SUPERFUND
967	MARATHON ASHLAND PETROLEUM	12/07/1999	PETROLEUM	FACILITY SPILL	CLOSED	KUTTAWA	37.05889	-88.1325	PETROLEUM
11297	MONEY CLIFF - COAST GUARD AID	09/26/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	ACTIVE		37.0312	-88.1417	STATE SUPERFUND
11586	PEGGYS	10/03/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE	ACTIVE	DRYDEN ESTATES	36.887	-88.1637	STATE SUPERFUND

Superfund Information System
Sites by County

Commonwealth of Kentucky
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DWM

County Name LYON

Incident Id Name

11299 SHELLY ISLAND - COAST GUARD AID
42223 W. KY CORRECTIONAL COMPLEX
11584 WEST ENTRANCE CANAL - COAST GUARD AID
45839 WKCC

Count of sites in LYON County 16

County Name MADISON

Incident Id Name

120723 ADRIAN DOTSON RESIDENCE
41661 ALLEN CO. SPILL
36088 BEREIA ABANDONED DRUMS
17375 BLUE GRASS PLATING CO.
17377 BLUE GRASS PLATING SLUDGE PITS
37880 BOONE VARIETY
20675 BUILDERS CONCRETE BLOCK
2024 CALDWELL DISCOUNT GROCERY
17391 CHENAULT RECTIFIERS
34957 COLUMBIA GULF - BYBEE / COLUMBIA GAS AND TRANSMIS
34958 COLUMBIA GULF - DELTA KINGSTON / COLUMBIA GAS AND
34961 COLUMBIA GULF - TRANEX / COLUMBIA GAS AND TRANSMIS
47439 COX LUXON REALTY
47303 COX'S AUTO
17379 DREAMING CREEK SITE
14621 DRUM NEAR BLUE GRASS ARMY DEPOT
41026 GOODYEAR STORE #6260
41654 I-75 EXIT 90 / NORTH STAR TRANSPORT, WILLIAM SCANN
48058 K I USA
36133 KARATE CLUB DRUM
17381 KELLER INDUSTRIES - BEREIA PLANT
31616 KOKOKU RUBBER
33185 KY LOCK (#10) AND DAM SITES / U. S. ARMY CORPS OF ENGINEERS
17383 MADISON SANITARY LANDFILL

Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
09/26/2000	POLLUTANT/CONTAMINANT	DISPOSAL	ACTIVE		36.9354	-88.014	STATE SUPERFUND
10/15/1996	PETROLEUM	DISPOSAL	CLOSED	EDDYVILLE	37.09444	-88.08028	PETROLEUM
10/03/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	ACTIVE	CROSS ROAD	36.9851	-88.2335	STATE SUPERFUND
09/12/1997	PETROLEUM	OTHER	CLOSED	EDDYVILLE	37.09444	-88.08028	PETROLEUM

Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
10/21/2003		UST (EXEMPT)	CLOSED	BEREA	37.572667	-84.28297	PETROLEUM
08/12/1996	PETROLEUM	FACILITY SPILL	CLOSED	BEREA	37.56861	-84.29639	PETROLEUM
03/20/1995	OTHER	ABANDONED DRUMS	CLOSED	BEREA	37.56861	-84.29639	STATE SUPERFUND
02/20/2001			ACTIVE	Richmond			STATE SUPERFUND
02/20/2001			ACTIVE	Richmond			STATE SUPERFUND
10/26/1995	PETROLEUM	FACILITY SPILL	CLOSED	RICHMOND	37.74778	-84.29472	PETROLEUM
01/11/1994	PETROLEUM	UST (EXEMPT)	CLOSED	RICHMOND	37.74778	-84.29472	STATE SUPERFUND
01/12/2000			CLOSED	RICHMOND	37.754444	-84.28	PETROLEUM
02/20/2001			ACTIVE	Richmond			STATE SUPERFUND
11/10/1994			ACTIVE	BYBEE	37.73306	-84.12472	STATE SUPERFUND
11/10/1994			ACTIVE	KINGSTON			STATE SUPERFUND
11/10/1994			ACTIVE	RICHMOND			STATE SUPERFUND
02/12/1998	PETROLEUM	FACILITY SPILL	CLOSED	RICHMOND	37.74778	-84.29472	PETROLEUM
01/27/1998	PETROLEUM	OIL SHEEN	CLOSED	RICHMOND	37.74778	-84.29472	PETROLEUM
02/20/2001			ACTIVE	Richmond			STATE SUPERFUND
12/21/2000			CLOSED	Richmond			STATE SUPERFUND
06/21/1996	PETROLEUM	UST (EXEMPT)	CLOSED	Richmond	37.74778	-84.29472	PETROLEUM
08/11/1996			ACTIVE	RICHMOND			STATE SUPERFUND
04/06/1999	PETROLEUM	TRANSPORTATION ACCIDENT	ACTIVE	Richmond			STATE SUPERFUND
03/22/1995	POLLUTANT/CONTAMINANT	MULTIPLE INCIDENTS	ACTIVE	BEREA	37.60417	-84.31083	PETROLEUM
02/20/2001			CLOSED	RICHMOND	37.74778	-84.29472	STATE SUPERFUND
05/13/1994	HAZARDOUS SUBSTANCE	OPEN DUMPING	ACTIVE	Berea			STATE SUPERFUND
04/15/1994	HAZARDOUS SUBSTANCE	SOIL CONTAMINATION	CLOSED	RICHMOND	37.74778	-84.29472	STATE SUPERFUND
02/20/2001			ACTIVE	Richmond	37.89452	-84.26529	STATE SUPERFUND
			ACTIVE	Pinola			STATE SUPERFUND

Superfund Information System
Sites by County

Commonwealth of Kentucky
NREPC
DWM

County Name BUTLER

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
33675	KANE INDUSTRIES	06/13/1994	PETROLEUM	UST (EXEMPT)	CLOSED	MORGANTOWN	37.22556	-86.68361	PETROLEUM
34716	KANE INDUSTRIES	10/13/1994	PETROLEUM	UST (EXEMPT)	CLOSED	MAORGANTOWN			STATE SUPERFUND
43061	KELLWOOD APPAREL GROUP	01/08/1997	PETROLEUM	OTHER	CLOSED	MORGANTOWN	37.22556	-86.68361	STATE SUPERFUND
54011	MASON CEMETERY ROAD DRUMS	10/04/1999	HAZARDOUS SUBSTANCE	ABANDONED DRUMS	CLOSED	BUTLER CO	37.11642	-86.71849	STATE SUPERFUND
48747	MORGANTOWN DRUM	05/21/1998			CLOSED	MORGANTOWN	37.23383	-86.7067	STATE SUPERFUND

Count of sites in BUTLER County 8

County Name CALDWELL

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
15116	CHEVRON DISTRIBUTION F.M. WILCOX, INC.	01/04/2001			ACTIVE	Princeton			STATE SUPERFUND
15123	CRIDER AND ROGERS LANDFILL	01/04/2001			CLOSED	Princeton			STATE SUPERFUND
35356	CRIDER AND ROGERS LANDFILL	12/29/1994	HAZARDOUS SUBSTANCE	LANDFILL	ACTIVE	PRINCETON	37.15556	-87.86667	FEDERAL SUPERFUND
34318	FISH N MORE RESTAURANT	09/06/1994	PETROLEUM	UST (EXEMPT)	CLOSED	PRINCETON	37.10917	-87.88194	STATE SUPERFUND
50301	GEORGE COLEMAN PROPERTY	09/25/1998	OTHER	OPEN DUMPING	CLOSED	PRINCETON	37.10917	-87.88194	STATE SUPERFUND
15121	I.C.G. RAILROAD DERAILMENT	01/04/2001			ACTIVE	Clackson			STATE SUPERFUND
15122	ITT GRINNELL WELDING PRODUCTS DIVISION	01/04/2001			ACTIVE	Princeton			STATE SUPERFUND
20190	MARION 1940	02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	MARION			PETROLEUM
20191	MARION 1940C	02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	MARION			PETROLEUM
42981	MID-STATE AUTOMOTIVE	01/02/1997	PETROLEUM	FACILITY SPILL	CLOSED	PRINCETON	37.10917	-87.88194	PETROLEUM
60848	PRINCETON HOSIERY MILL	10/05/2001			CLOSED	PRINCETON	37.110361	-87.88986	STATE SUPERFUND
37016	PRINCETON PCB CAPACITORS	06/13/1995	HAZARDOUS SUBSTANCE	ABANDONED DRUMS	CLOSED	PRINCETON	37.10917	-87.88194	STATE SUPERFUND
39902	THOMPSON STEEL PIPE COMPANY	03/22/1996	PETROLEUM	FACILITY SPILL	CLOSED	PRINCETON	37.10917	-87.88194	PETROLEUM

Count of sites in CALDWELL County 13

County Name CALLOWAY

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
11320	BLOOD RIVER - COAST GUARD AID	09/26/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	CLOSED	Murray	36.6392	-88.05719	STATE SUPERFUND
15125	CALLOWAY DUMP	01/04/2001			ACTIVE	Murray			STATE SUPERFUND
50733	DIXIELAND CENTER / HAVERSTOCK, BELL & PITMAN	10/13/1998	HAZARDOUS SUBSTANCE	FACILITY SPILL	ACTIVE	MURRAY	36.61833	-88.31667	STATE SUPERFUND
47968	ECOLOGY SYSTEMS LANDFILL	03/17/1998	HAZARDOUS SUBSTANCE	LANDFILL	ACTIVE	MURRAY	36.60222	-88.19333	STATE SUPERFUND
15126	ECOLOGY SYSTEMS, INC.	01/04/2001			CLOSED	Murray			STATE SUPERFUND
47414	GEORGE NICHOLS DRUMS	02/04/1998	HAZARDOUS SUBSTANCE	ABANDONED DRUMS	CLOSED	MURRAY	36.61028	-88.31472	STATE SUPERFUND
8023	KENLAKE FOODS	06/23/2000	PETROLEUM	OTHER	ACTIVE	MURRAY	36.61028	-88.31472	PETROLEUM
45373	MATTEL	08/22/1997			CLOSED	MURRAY	36.61028	-88.31472	PETROLEUM
48008	MATTEL	03/23/1998	OTHER	FACILITY SPILL	CLOSED	MURRAY	36.61028	-88.31472	PETROLEUM

COUNTY_CODE	COUNTY_NAME	SITE_SEQ_ID	SITE_NAME	NVL(C.STREET_ADDRESS,C.PO_ADDRESS)	CITY	ST	POSTAL_CO
17	CALDWELL	34017	FREDONIA VALLEY QUARRIES	RT 2	FREDONIA	KY	42411
17	CALDWELL	56017	TRICE HUGHES CHEVROLET INC	HWY 91 N	PRINCETON	KY	42445
17	CALDWELL	202017	ONE STOP 10	S JEFFERSON	PRINCETON	KY	42445
17	CALDWELL	203017	PARKWAY BP	312 HWY 91 N	PRINCETON	KY	42445
17	CALDWELL	757017	CALDWELL COUNTY/MAINT GARAGE	WESTERN KY PKWY N PRINCETON	PRINCETON	KY	42445
17	CALDWELL	915017	SOUTH CENTRAL PRTNKYES REAL ES	405 MARKET ST 53676	PRINCETON	KY	42445
17	CALDWELL	1002017	C & K AUTO REPAIR	970 DAWSON RD	PRINCETON	KY	42445
17	CALDWELL	1003017	T MART 536 (MINIT MART #2227)	303 W HWY 62	PRINCETON	KY	42445
17	CALDWELL	1004017	HEATONS CITGO (PRINCETON FAST LUBE) (ASHLAND)	495 MARION RD	PRINCETON	KY	42445
17	CALDWELL	1005017	CITY OF PRINCETON	310 S MCNARY ST	PRINCETON	KY	42445
17	CALDWELL	1008017	VALLEY INN RESTAURANT	CASSIDY & CRIDER ST	FREDONIA	KY	42411
17	CALDWELL	1009017	CROWTOWN STORE	800 MARION RD (HWY 91)	PRINCETON	KY	42445
17	CALDWELL	1010017	BUILD RITE LUMBER	HWY 641 S	FREDONIA	KY	42411
17	CALDWELL	1011017	HOLEMAN PROPERTY	13660 DAWSON RD	DAWSON SPRINGS	KY	42408
17	CALDWELL	1160017	PRINCETON WASTEWATER TREATMENT P	2540 CADIZ RD	PRINCETON	KY	42445
17	CALDWELL	1454017	S R 139	UNKNOWN	FARMERSVILLE	KY	42445
17	CALDWELL	1521017	U C MILK CO INC	HOPKINSVILLE & CADIZ ST	PRINCETON	KY	42445
17	CALDWELL	1576017	FREDONIA FOOD & MORE	101 CASSIDY AVE	FREDONIA	KY	42411
17	CALDWELL	1670017	J DOUGLAS OSTING DBA FARMERS D	116 E MARKET	PRINCETON	KY	42445
17	CALDWELL	1734017	JUNIOR RAY BEAVERS	300 S CAVE ST	PRINCETON	KY	42445
17	CALDWELL	1770017	CRUCES CROSSROADS	7660 FARMERSVILLE RD	PRINCETON	KY	42445
17	CALDWELL	1807017	PRINCETON ELECTRIC PLANT BOARD	304 E LEGION DR	PRINCETON	KY	42445
17	CALDWELL	2103017	CMI PRINCETON INC	HWY 128	PRINCETON	KY	42445
17	CALDWELL	2150017	THOMAS CAYCE	ROUTE 3	PRINCETON	KY	42445
17	CALDWELL	2339017	BIG O MARKET (ONE STOP #8)	501 N JEFFERSON	PRINCETON	KY	42445
17	CALDWELL	2380017	FARMERSVILLE COUNTRY STORE	4000 FARMERSVILLE RD	PRINCETON	KY	42445
17	CALDWELL	2444017	DON HANCOCK	HWY 62 W	PRINCETON	KY	42445
17	CALDWELL	2728017	IDEAL #15 (ROCKET OIL)	1000 W MAIN ST	PRINCETON	KY	42445
17	CALDWELL	2797017	FREDONIA BULK PLT (ABM 251 0121)	106 CASSIDY AVE	PRINCETON	KY	42445
17	CALDWELL	3129017	FREDONIA ASHLAND	HWY 641 & 91	FREDONIA	KY	42411
17	CALDWELL	3154017	CHAMBERS MARKET	1137 DAWSON RD	FREDONIA	KY	42411
17	CALDWELL	3306017	THE KENTUCKY STONE COMPANY	HWY 91 2 1/2 MI SE OF PRINCETON	PRINCETON	KY	42445
17	CALDWELL	3324017	KILGORE SERVICE STATION	129 E MAIN ST	PRINCETON	KY	42445
17	CALDWELL	3370017	FARMERS CROP SERVICE	HWY 62 W	PRINCETON	KY	42445
17	CALDWELL	3396017	# 1290116	DEPOT ST	PRINCETON	KY	42445
17	CALDWELL	3544017	MAX ARNOLD & SONS LLC DBA MAXFUEL #27	490 MARION RD	PRINCETON	KY	42445

17 CALDWELL	3721017 WEST KENTUCKY SUBSTATION	HWY 91 BLDG 7813	PRINCETON	KY	42445
17 CALDWELL	3915017 U-RIDE INC	HWY 91 WK PKWY	PRINCETON	KY	42445
17 CALDWELL	5114017 CALDWELL CO SCHOOLS/BUS GARAGE	119 YOUNG ST	PRINCETON	KY	42445
17 CALDWELL	5115017 FREDONIA FLEA MARKET (ELEM SCHL)	BOX 177	FREDONIA	KY	42411
17 CALDWELL	5390017 CALDWELL CO FISCAL CT	115 E MARKET ST	PRINCETON	KY	42445
17 CALDWELL	5484017 FORD LEASING DEVELOPMENT COMPANY	HWY 62 W	PRINCETON	KY	42445
17 CALDWELL	5517017 MAX FUEL #10	400 HWY 62 W	PRINCETON	KY	42445
17 CALDWELL	5774017 JERRY'S MARKET (MACS MARKET)	911 HOPKINSVILLE RD	PRINCETON	KY	42445
17 CALDWELL	5807017 MAXFUEL #28	126 E COURT SQUARE	PRINCETON	KY	42445
17 CALDWELL	6724017 ROBERT BROADBENT FARM	HWY 128	COBB	KY	42445
17 CALDWELL	6725017 ARVIN AFTERMARKET PRODUCTS DIV	HWY 62 W	PRINCETON	KY	42445
17 CALDWELL	6739017 PRINCETON B331010	US 62	PRINCETON	KY	42445
17 CALDWELL	6797017 C A WOODALL	HWY 91	PRINCETON	KY	42445
17 CALDWELL	6826017 BILL LEWIS SERVICE STATION	700 WASHINGTON ST	PRINCETON	KY	42445
17 CALDWELL	6827017 LARUES PIT STOP	21212 MARION RD	FREDONIA	KY	42411
17 CALDWELL	6837017 SOUTH SIDE PETRO	326 S JEFFERSON ST	PRINCETON	KY	42445
17 CALDWELL	7212017 AKRIDGE FARM SUPPLY	55 WYATT ST DORRAH ST	FREDONIA	KY	42411
17 CALDWELL	7214017 ABM 251 003 0597	KY HWY 91 & 70 & 641	FREDONIA	KY	42411
17 CALDWELL	8521017 FLETCHER PROPERTY (KY DELIVERY	314 RAILROAD ST	PRINCETON	KY	42445
17 CALDWELL	8524017 BARNES STORE INC	RT 5 9945 HWY 293 N	PRINCETON	KY	42445
17 CALDWELL	8536017 BAYS COUNTRY STORE	375 SHORT 70 RD	PRINCETON	KY	42445
17 CALDWELL	8539017 HOPSONS STORE	RT 3 HWY 139	PRINCETON	KY	42445
17 CALDWELL	8544017 SAMS SHELL & CARWASH (MOGAS)	309 LIGON DR	PRINCETON	KY	42445
17 CALDWELL	8545017 MAX FUEL #14 (OLIVERS CHEVRON)	206 MARION RD	PRINCETON	KY	42445
17 CALDWELL	8546017 RAYS CHEVRON	301 MAIN ST	PRINCETON	KY	42445
17 CALDWELL	8550017 D & L PROPERTIES	309 MARIAN RD HWY 91 N AT WK PKW	PRINCETON	KY	42445
17 CALDWELL	8551017 HANCOCKS MOR FOR LESS FOOD STORE	RT 2 (SAVE A LOT)	PRINCETON	KY	42445
17 CALDWELL	8821017 62 MARKET	RTE 3 HWY 62	DAWSON SPRINGS	KY	42408
17 CALDWELL	9658017 PRINCETON LAWN & GARDEN SUPPLY	201 W GREEN ST	PRINCETON	KY	42445
17 CALDWELL	9804017 THOMAS GROC & STATION	RT 4	PRINCETON	KY	42445
17 CALDWELL	9982017 THE PANTRY #351	328 S JEFFERSON ST	PRINCETON	KY	42445
17 CALDWELL	20140890 THE SADDLE SHOP	216 MCGOODWIN ST	PRINCETON	KY	42445
72 LYON	205072 EDDY CREEK MARINA	7612 ST RTE 93 S	EDDYVILLE	KY	42038
72 LYON	206072 EDDYVILLE BP	105 MAIN ST	EDDYVILLE	KY	42038
72 LYON	259072 BUZZARD ROCK RESORT & MARINA	985 BUZZARD ROCK RD	KUTTAWA	KY	42055
72 LYON	286072 WESTERN KY CORRECTIONAL COMPLEX	374 NEW BETHEL RD	FREDONIA	KY	42411
72 LYON	288072 KENTUCKY STATE PENITENTIARY	377 WATER ST	EDDYVILLE	KY	42038

72 LYON	414072 RAMEY CAMPGROUND	R 1 HWY 274/134 DRYDEN CREEK RD	EDDYVILLE	KY	42038
72 LYON	670072 LYON CO BOARD OF EDUCATION	FAIRVIEW AVE	EDDYVILLE	KY	42038
72 LYON	731072 LYON COUNTY/MAINT GARAGE	KY 373	EDDYVILLE	KY	42038
72 LYON	1001072 KUTTAWA \$4540	28 DAYS INN DR	KUTTAWA	KY	42055
72 LYON	1002072 NU-KRO	638 TRADE AVE	EDDYVILLE	KY	42038
72 LYON	1003072 WENDYS BP	29 DAYS INN DR	KUTTAWA	KY	42055
72 LYON	1004072 LYON CO AMBULANCE SERVICE	505 FAIRVIEW AVE	EDDYVILLE	KY	42038
72 LYON	1005072 COUNTRY VILLAGE FLEA MARKET	5680 US HWY 62 W	SUWANEE	KY	42055
72 LYON	1006072 CUMMINGS GROCERY	8970 HWY 93 S	EDDYVILLE	KY	42038
72 LYON	1533072 HEAD & LISA'S TACKLE BOX	5045 US HWY 62 W	KUTTAWA	KY	42055
72 LYON	1931072 KUTTAWA HARBOR INC	1709 LAKE BARKLEY DRIVE	KUTTAWA	KY	42055
72 LYON	1961072 OVERLOOK MARKET	ROUTE 2 2455 ST RT 1055	EDDYVILLE	KY	42038
72 LYON	1983072 SARATOGA BAIT & TACKLE	1860 HWY 293 N	EDDYVILLE	KY	42038
72 LYON	2479072 KUTTAWA MARKET	PO BOX 366	KUTTAWA	KY	42055
72 LYON	2973072 HUCKS TRAVEL CENTER (SWIFTY)	RTE 2 US HWY 641	KUTTAWA	KY	42055
72 LYON	3325072 EDDYVILLE TIRE	FAIRVIEW AVE	EDDYVILLE	KY	42038
72 LYON	3513072 MAXFUEL #22 (DRURY'S SHORT STOP)	174 ST RTE 293	EDDYVILLE	KY	42038
72 LYON	3764072 FORMER DAVES OIL	2975 US 62 E	EDDYVILLE	KY	42038
72 LYON	3950072 EDDYVILLE FIVESTAR #3300	620 FAIRVIEW AVE	EDDYVILLE	KY	42038
72 LYON	4057072 YATES BUILDING	HWY 93 S	EDDYVILLE	KY	42038
72 LYON	4417072 PHILLIPS 66 CO 021481	US 61 & 62	EDDYVILLE	KY	42038
72 LYON	5137072 LYON COUNTY SCHOOL BUS GARAGE	101 JENKINS RD	EDDYVILLE	KY	42038
72 LYON	5246072 SOUTHERN EXCAVATING (DUNCANS)	1983 US HWY 62 E	EDDYVILLE	KY	42038
72 LYON	5678072 SHAWNEE PLASTICS INC	LAKESHORE DR	EDDYVILLE	KY	42038
72 LYON	5736072 CJ'S (T J'S JUNCTION)	8874 SR 93 S	KUTTAWA	KY	42055
72 LYON	5813072 KUTTAWA FIVESTAR #539	US 62 & 641 LAKE SHORE DR	EDDYVILLE	KY	42038
72 LYON	5970072 BLUEGRASS OIL CO/EDDYVILLE GULF	HWY 641 & 62	KUTTAWA	KY	42055
72 LYON	6831072 EDDYVILLE CITGO	666 FRANK TANNER AVE	EDDYVILLE	KY	42038
72 LYON	7213072 FREDONIA KY BULK PLANT 251	FAIRVIEW AVE	EDDYVILLE	KY	42038
72 LYON	7215072 TOM & BARBS GROCERY & BAIT	KY RT 1 HWY 93	EDDYVILLE	KY	42038
72 LYON	8526072 TARRYON RESORT	ROUTE 1	KUTTAWA	KY	42055
72 LYON	8534072 GRADY WHITE	RT BOX 100	EDDYVILLE	KY	42038
72 LYON	8548072 BILL & BILLY INC	HWY 62 & LAKE SHORE AVE	KUTTAWA	KY	42055
72 LYON	8549072 RAYMOND GUESS	HWY US 62 W	KUTTAWA	KY	42055
72 LYON	8717072 CLYDE S TILLER	ROUTE 2	EDDYVILLE	KY	42038
72 LYON	10000505 COUNTY GARAGE	1677 HWY 3305	EDDYVILLE	KY	42038



UNIVERSITY OF KENTUCKY

DIV OF PLANNING

2003 NOV -7 A 11: 35

Kentucky Geological Survey

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228 Mining and Mineral Resources Building
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Fax: (859) 257-1147
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November 3, 2003

Annette Coffey, P.E.
Director
Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Dear Ms. Coffey:

This letter is to summarize any geologic concerns for the planning study:
Lyon and Caldwell Counties
U.S. 641, reconstruction and relocation from Eddyville to Fredonia, Ky.

Physiographic Region

This planning study is in the Mississippian Plateau (Pennyroyal or Pennyryle) Physiographic Region, which is underlain by limestone.

Karst Potential

This planning study would encounter karst features such as sinkholes and caves.

Landslide Potential

This planning study would not encounter any pre- or post-landslide hazard.

Unconsolidated Sediments

This planning study would encounter unconsolidated sediments, such as clay, silt, sand, gravel, and chert rubble in the streams.

Resource Conflicts

This planning study might encounter resource conflicts such as prior ownership of property for quarrying or mining



Materials Suitability

This planning study would encounter the St. Louis Limestone and Fredonia Limestone Member of the Ste. Genevieve Limestone. The St. Louis might contain expansive aggregate layers that would not be suitable for construction stone. The Fredonia Limestone Member has been quarried in this area for construction stone, but does contain "soft" oolitic layers that would not be suitable for construction stone.

Fault Potential

This planning study would encounter faulted areas.

Earthquake Ground Motions

This planning study area has a probable peak ground acceleration (PGA) due to earthquake ground motion of 0.19g. There would be a low potential for liquefaction or slope failure in the unconsolidated sediments at or near streams by bedrock ground motion.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard A. Smath". The signature is fluid and cursive, with the first name "Richard" being more prominent than the last name "Smath".

Richard A. Smath
Geologist

cc: Richard Wilson

United States Department of Agriculture



Natural Resources Conservation Service
771 Corporate Drive; Suite 210
Lexington, KY 40503-5479

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

October 30, 2003

Dear Ms. Coffey:

In regards to the Planning Study for Lyon and Caldwell Counties (US 641, Relocation or Reconstruction from Eddyville to Fredonia), the USDA-Natural Resources Conservation Service (NRCS) is concerned with potential impacts that the proposed highway project might have upon prime farmland soils and additional farmlands of statewide importance. If federal dollars are to be used to convert important farmlands from agricultural uses to non-agricultural uses a Form AD-1006 (or Form NRCS-CPA-106 if the project is a corridor type project) must be submitted to the local NRCS office. These forms may be obtained from the local NRCS office and are also available as electronic forms on the web at

http://www.nrcs.usda.gov/programs/fppa/pdf_files/AD1006.PDF and
http://www.nrcs.usda.gov/programs/fppa/pdf_files/CPA106.pdf.

The contact person is:

George E. Ballard, District Conservationist
USDA-Natural Resources Conservation Service
503 Parkway Drive
Princeton, KY 42445-2217

phone: (270) 365-5533

Mr. Ballard can help in identifying important farmlands in the proposed project area.

Sincerely,

A handwritten signature in dark ink, appearing to read "David G. Sawyer".

DAVID G. SAWYER
State Conservationist

cc: George Ballard, District Conservationist, Princeton, KY
William E. Giesecke, Area Conservationist, Madisonville, KY

DIV OF PLANNING
2003 NOV -4 A 10:17



DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
3701 Bell Road
NASHVILLE, TENNESSEE 37214

REPLY TO
ATTENTION OF:

November 13, 2003

Regulatory Branch

SUBJECT: File No. 200301733; Initial Coordination on Proposed Improvements to US 641 from Eddyville to Fredonia, Lyon and Caldwell Counties, Kentucky

Ms. Annette Coffey, Director
Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Dear Ms. Coffey:

This is in response to your October 27, 2003, request for our agencies input and comments on the subject project.

Based upon the location map provided with your letter and my coordination with the Corps of Engineer's Lake Barkley Resource Manager, the proposed project would not affect lands owned or operated by the Corps of Engineers.

Reviewing the basic plans provided, it appears that the subject proposal may require the replacement, widening, and/or construction of bridges and culverts. Depending upon the particular plans, it is likely that the work can meet the criteria for approval by Nationwide Permit #14 for the deposit of fill material associated with road crossings. My preliminary jurisdictional determination is that some level of Department of the Army (DA) permit would be required for the work proposed in your request. However, your proposed plan lacks the necessary information sufficient for a determination which type of permit is required.

As always, we encourage a construction plan and alignment that avoids wetland and stream impacts if possible. When your route is more complete, your application should include plans of the work, locations of all crossings, any proposed mitigation, and supporting environmental documentation.

-2-

Thank you for the opportunity to participate in your planning process. Until that time, if you have any questions or comments contact me at the above address or phone (615) 369-7504.

Sincerely,

Lisa R. Morris

Lisa R. Morris
Project Manager
Operations Division

Copy Furnished: CELRN-DE
CERLN-OP



United States Department of the Interior

FISH AND WILDLIFE SERVICE
3761 GEORGETOWN ROAD
FRANKFORT, KY 40601

DIV OF PLANNING

2003 DEC -1 A 11: 34

November 25, 2003

Ms. Annette Coffey
Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 40622

Subject: FWS #04-0236; Planning Study: US 641, Reconstruction or relocation from Eddyville to Fredonia, Lyon and Caldwell Counties, Kentucky

Dear Ms Coffey:

Thank you for your correspondence of October 27, 2003, regarding the Kentucky Transportation Cabinet's (KTC) planning study for the reconstruction or relocation of US 641 from Eddyville to Fredonia, Kentucky. Fish and Wildlife Service (Service) personnel have reviewed the information submitted and the following comments are provided in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

In general, we are concerned that highway projects frequently accelerate erosion and sedimentation in streams, resulting in adverse effects to the aquatic environment. The use of heavy equipment to move earth and existing vegetation disrupts natural drainage patterns and exposes large areas of disturbed soil to erosion. Excessive sedimentation can clog stream channels and contribute to increased flooding. It can also increase water temperatures and cause oxygen demands that can damage or destroy fish and invertebrate populations. Deposition of sediment on the channel bottom also degrades aquatic habitat by filling in substrate cavities, burying demersal eggs, and smothering bottom organisms. In addition, turbidity, as induced by accelerated erosion and sedimentation, results in further damage to aquatic systems. Increased particulate matter suspended in the water column may drive fish from the polluted area by irritating the gills, concealing forage, and/or destroying vegetation that may be essential for spawning and cover habitat for particular species. Turbidity also degrades water quality by reducing light penetration, pH and oxygen levels, and the buffering capacity of the water. Degraded water quality may continue far downstream from the point where the erosion occurs.

Prevention of excessive sedimentation can occur only through application of Best Management Practices during daily construction activities. Rigid application of your agency's construction

erosion control standards can preclude most sedimentation problems. In some cases, however, additional measures will need to be taken by on-site inspectors and construction representatives that are trained in erosion and sediment control methods. We request that you consider having an inspector on-site during all construction activities to ensure that work areas are stabilized on a daily or regular basis.

According to our records, summer roost habitat and/or winter hibernacula for the endangered Indiana bat (*Myotis sodalis*), and gray bat (*Myotis grisescens*) may exist within the proposed project area. Based on this information, we believe that: (1) forested areas in the vicinity of and on the project area may provide potentially suitable summer roosting and foraging habitat for the Indiana bat and potentially suitable foraging habitat for the gray bat (if suitable roosting sites are present); and (2) caves, rockshelters, and abandoned underground mines in the vicinity of and on the project area may provide potentially suitable winter hibernacula habitat for the Indiana bat and/or potentially suitable summer roosting and winter hibernacula habitat for the gray bat. Our belief that potentially suitable habitat may be present, and possibly occupied by one or both of these species, is based on the information provided in your correspondence, the fact that much of the project site and surrounding areas contain forested habitats that are within the natural ranges of these species, and our knowledge of the life history characteristics of these species.

The Indiana bat utilizes a wide array of forested habitats, including riparian forests, bottomlands, and uplands for both summer foraging and roosting habitat. Indiana bats typically roost under exfoliating bark, in cavities of dead and live trees, and in snags (i.e., dead trees or dead portions of live trees). Trees in excess of 16 inches diameter at breast height (DBH) are considered optimal for maternity colony roosts, but trees in excess of 9 inches DBH appear to provide suitable maternity roosting habitat. Male Indiana bats have been observed roosting in trees as small as 3 inches DBH.

Prior to hibernation, Indiana bats utilize the forest habitat around the hibernacula, where they feed and roost until temperatures drop to a point that forces them into hibernation. This "swarming" period lasts, depending on weather conditions in a particular year, from about September 15 to about November 15. This is a critical time for Indiana bats, since they are acquiring additional fat reserves and mating prior to hibernation. Research has shown that bats exhibiting this "swarming" behavior will range up to five miles from chosen hibernacula during this time. For hibernation, the Indiana bat prefers limestone caves, sandstone rockshelters, and abandoned underground mines with stable temperatures of 39 to 46 degrees F and humidity above 74 percent but below saturation.

Gray bats roost, breed, rear young, and hibernate in caves year round. They migrate between summer and winter caves and will use transient or stopover caves along the way. For hibernation, the roost site must have an average temperature of 42 to 52 degrees F. Most of the caves used by gray bats for hibernation have deep vertical passages with large rooms that function as cold air traps. Summer caves must be warm, between 57 and 77 degrees F, or have small rooms or domes that can trap the body heat of roosting bats. Summer caves are normally located close to rivers or lakes where the bats feed. Gray bats have been known to fly as far as 12 miles from their colony to feed.

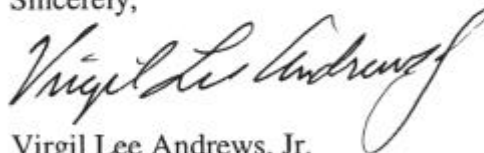
Because we have concerns relating to these species on this project and due to the lack of occurrence information available on these species relative to the proposed project area, we have the following recommendations relative to Indiana bats and gray bats.

1. Based on the presence of numerous caves, rockshelters, and underground mines in Kentucky, we believe that it is reasonable to assume that other caves, rockshelters, and/or abandoned underground mines may occur within the project area, and, if they occur, they could provide winter habitat for Indiana bats and/or summer and winter habitat for the gray bat. Therefore, we recommend that you survey the project area for caves, rockshelters, and underground mines, identify any such habitats that may exist on-site, and avoid impacts to those sites pending an analysis of their suitability as Indiana bat habitat by this office.
2. We also recommend that the KTC only remove trees within the project area between October 15 and March 31 in order to avoid impacting summer roosting Indiana bats. However, if any Indiana bat hibernacula are identified on the project area or are known to occur within 10 miles of the project area, we recommend the KTC only remove trees between November 15 and March 31 in order to avoid impacting Indiana bat "swarming" behavior.

If these recommendations cannot be incorporated as project conditions, then you should survey the project area to determine the presence or absence of the species within the project area in an effort to determine if potential impacts to these species are likely. A qualified biologist who holds the appropriate collection permits for these species must undertake such surveys, and we would appreciate the opportunity to approve the biologist's survey plan prior to the survey being undertaken and to review all survey results, both positive and negative. If any Indiana bats and/or gray bats are identified, we request written notification of such occurrence(s) and further coordination and consultation with you. Surveys would not be necessary if sufficient site-specific information was available that showed: (1) that there is no potentially suitable habitat within the project area or its vicinity or (2) that the species would not be present within the project area or its vicinity due to site-specific factors. Please provide us with a written explanation or justification if either or both of these would apply to the proposed project.

Thank you for the opportunity to comment on this proposed action. If you have any questions regarding the information which we have provided, please contact Mindi Brady at (502)/695-0468 (ext.229).

Sincerely,



Virgil Lee Andrews, Jr.
Field Supervisor



KENTUCKY TRANSPORTATION CABINET
FRANKFORT, KENTUCKY 40622
WWW.KENTUCKY.GOV

DIV OF PLANNING

2004 MAR 25 A 10: 23

ERNIE FLETCHER
GOVERNOR

MAXWELL C. BAILEY
SECRETARY

MEMORANDUM

To: Annette Coffey, P.E., Director
Division of Planning

From: David M. Waldner, P.E., Director
Division of Environmental Analysis

Date: March 23, 2004

Re: Planning Study - US 641, Reconstruction or Relocation from Eddyville to Fredonia
Lyon and Caldwell Counties, Ky. Item # 1-187.3 (this is the closest item number
to the this project which currently has no ID number)

The proposed reconstruction of US 641 from Eddyville to Fredonia, Kentucky has been evaluated by the Division of Environmental Analysis for any potential environmental challenges that would need to be addressed during the design stage. The following brief set of preliminary comments are based upon the planning study data presented, additional comments could be provided once alignments are proposed for the project:

1. The Air Quality status of the project would not be a problem; no adverse impacts anticipated.
2. There are no Noise impacts anticipated as a result of this project.
3. Stream impacts should be avoided/minimized; the potential for long channel changes is present. If unavoidable, impacts to these areas would pose mitigation issues and require permits during the design process.
4. Ecological impacts will have to be assessed with a base study.
5. Specific details concerning underground storage tanks and hazardous materials would need to be obtained once alignments are proposed.
6. A full Baseline study to determine any cultural historic impacts is warranted.
7. Due to the numerous potential archaeology sites in the area a baseline study is recommended.

Our staff appreciates the opportunity to provide early comments on projects during the planning stage. If you should have any questions regarding these comments please contact Tony Vinegar or me at 564-7250.

DMW/TV

C: Files



COMMONWEALTH OF KENTUCKY
KENTUCKY STATE POLICE
919 VERSAILLES ROAD
FRANKFORT KY. 40601

PAUL E. PATTON
GOVERNOR

PATRICK N. SIMPSON
COMMISSIONER

October 31, 2003

Annette Coffey, P.E.
Director
Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 40622

Dear Director Coffey:

I am in receipt of your correspondence concerning a planning study in Lyon and Caldwell counties.

I have forwarded your remarks to Captain Steve Humphreys, Commander of the Mayfield Post. He can be reached at 270-856-3721. Thank you for including our input during the planning stages of this development.

Sincerely,

A handwritten signature in black ink, appearing to read "Rodney Brewer", written over a horizontal line.

Rodney W. Brewer, Lt. Colonel
Director, Division of Police Services

cc: Commissioner Simpson
Commander, West Troop
Commander, Post 1



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

Wilson, Jimmy (KYTC)

From: Palmer-Ball, Brainard (NREPC, KSNPC)
Sent: Thursday, November 06, 2003 10:33 AM
To: Wilson, Jimmy (KYTC)
Subject: KSNPC response to Planning Study announcement

TO: Jimmy Wilson/Annette Coffey, KTC/Division of Planning

FROM: Brainard Palmer-Ball, Jr., KSNPC

DATE: November 6, 2003

RE: Planning Study for US 641 from Eddyville to Fredonia, Caldwell/Lyon cos.

KSNPC has reviewed the Planning Study summary. A review of our natural heritage database revealed the presence of no KSNPC-listed species or unique natural areas that we believe would be directly impacted by implementation of the project. However, some preliminary issues of concern to us include 1) the general avoidance of wetland areas, 2) the area is known to be inhabited by gray bats (*Myotis grisescens* -- USFWS Endangered), especially in limited stream corridors (the area is quite karstic and there are not many surface streams), and 3) minimizing further fragmentation of limited amount of forested tracts in the area.

Wilson, Jimmy (KYTC)

From: Siria, Bruce (KYTC)
Sent: Thursday, November 20, 2003 7:41 AM
To: Woodrum, Bob (KYTC); Wilson, Jimmy (KYTC)
Subject: FW: Planning studies state wide

fyi.....

Jim, should I also send a copy of this to Nick Hall? Anybody else?

-----Original Message-----

From: Roberts, David C - (DMA) [mailto:robertsdc@bngc.dma.state.ky.us]
Sent: Tuesday, November 18, 2003 3:00 PM
To: Siria, Bruce (KYTC)
Subject: Planning studies state wide

Bruce,

After reviewing the following planning studies that were forwarded to this department for input, it has been determined that none of projects would impact The Department of Military Affairs in anyway.

Grayson and Hart Counties item # 4-8101.00
US 60 from Sturgis to Morganfield # 02-8102.00
Lyon and Caldwell Counties US 641 from Eddyville to Fredonia
Hancock County improve connection to Cannelton bridge

David C. Roberts
Assistant Director
Facilities Division
502-607-1543
Fax 502-607-1270

Environmental Justice and Community Impact Report

US 641 Highway Project
Relocation from
Eddyville to Fredonia
Kentucky

February 2004

**Pennyrite Area Development District
300 Hammond Drive
Hopkinsville, KY 42240
(270) 886-9484**

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INTRODUCTION

This Environmental Justice and Community Impacts Report is to be used as a component of an Alternatives Study for the relocation or reconstruction of US 641 from Eddyville in Lyon County to Fredonia in Caldwell County. Roadwork on US 641 between Marion and Fredonia was intended to upgrade the road for industrial use, and the relocation or reconstruction of US 641 from Eddyville to Fredonia continues the effort to make Crittenden County more accessible for industry. *Map 1, US 641 Planning Study* shows the study area for this project. The study is intended to better define the location and purpose of the project and better meet federal requirements regarding consideration of environmental issues as defined in the National Environmental Policy Act (NEPA).

The Pennyryle Area Development District's Regional Transportation Council, and the District 1 Highway Office have given this project a priority rating of "high" during the 2003 prioritization process. The 2000 Census identifies three census tracts in Caldwell County, three census tracts in Crittenden County, two census tracts in Livingston County, and two census tracts in Lyon County. For the purposes of this project, the following census tracts are illustrated on *Map 2, Census Tracts and Block Groups in Study Area*:

- 9601 (001, 002, 003, 004, 005) – Lyon County
- 9602 (001) – Lyon County
- 9801 (001, 002) – Caldwell County
- 9802 (003, 004, 005) – Caldwell County
- 9803 (004) – Caldwell County
- 402 (005) – Livingston County
- 9904 (002) – Crittenden County

POPULATION BY RACE

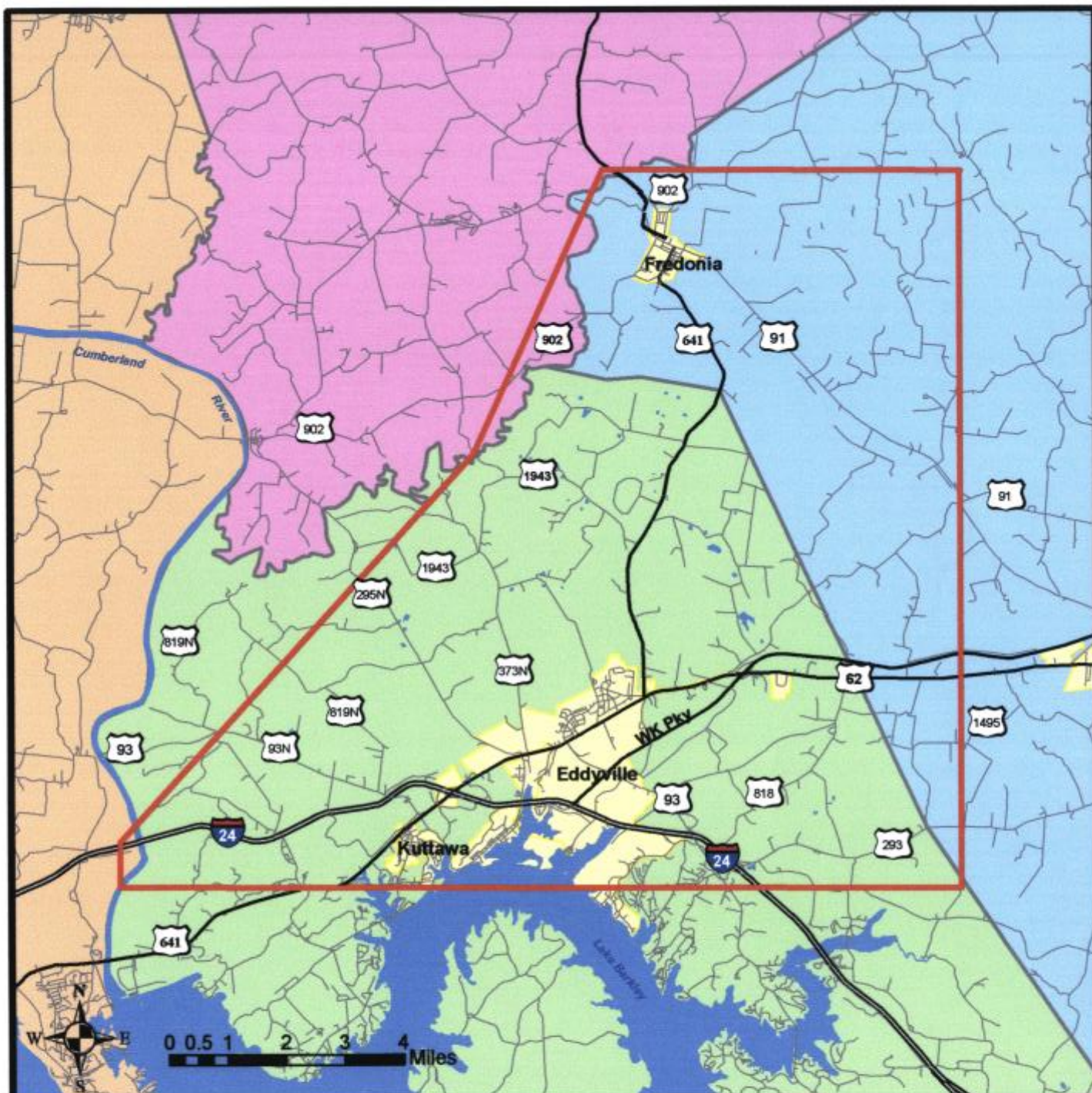
Comparing the figures in Table 1A to those in Table 1B, few proportions differ from national and state levels. Lyon County's block group 001 in tract 9601 is 15.3% Black. This is higher than the 12.3% national Black population. The difference becomes more prevalent in the comparison of the state and county levels of 7.3% and 6.7% respectively. Tract 9601 as a whole is 8.4% Black, which is lower than the national percentage (12.3%) and higher than the state percentage (7.3%). Block group 002 in tract 9601, with a Black population of 11.5%, falls into the same category, having a Black population under the national average but higher than the state average. The averages in tract 9601, block groups 001 and 002 appear to be elevated because of the Prison Farm located in this area. The location of the prison accounts for what looks like a concentration of a Black population. In Caldwell County, tract 9802 has a Black population of 9.9%, which also falls between the national and state averages; however, block groups 003, 004, and 005 of census tract 9802 all have Black populations lower than the national, state, and county percentages.

Census tract 9601, block group 004 in Lyon County has an American Indian population of 1.0%, one tenth of a percentage point higher than the national average of 0.9%. Despite this,

census tract 9601 as a whole is 0.3% American Indian, equal to the county average and one third of the national average. Census tract 402 in Livingston County is 0.5% American Indian, which falls between the national average of 0.9% and the state average of 0.2%. Block group 005 of census tract 402 is 0.6% American Indian, also between the national and state averages.

Each of the other census tracts and block groups show no significant difference in population composition according to race within the project area. The minority percentages are comparable or lower than state and national levels.

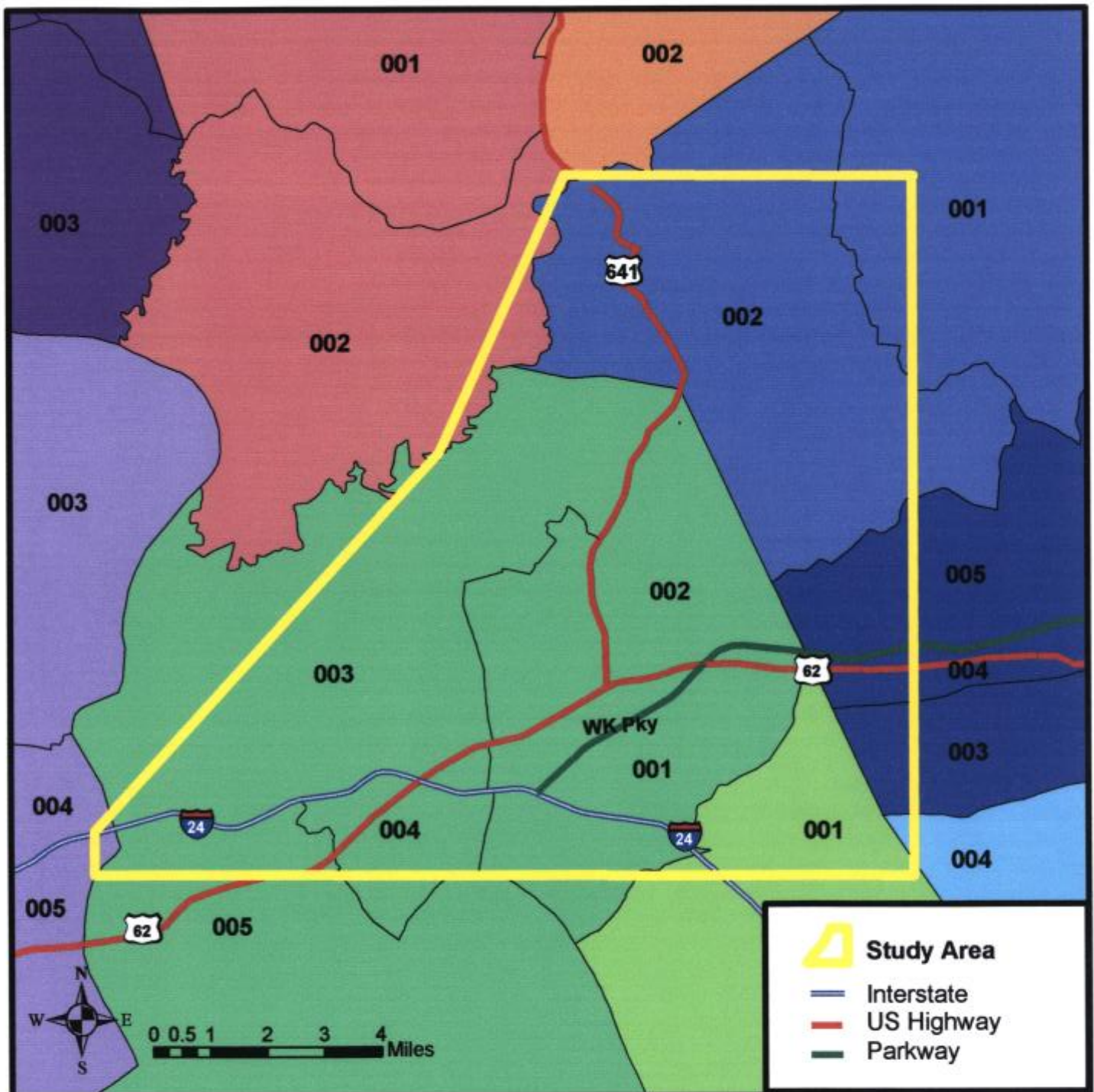
Members of the project area community focus group were consulted to confirm this conclusion about the study area. They did not recognize any minority concentrations that seemed higher than average. It appears that this project would have little impact on minority communities in Caldwell, Crittenden, Livingston, and Lyon Counties.



Map 1: US 641 Planning Study



Prepared by: Pennyriple Area Development District, Planning Department, August 2003



Map 2: Census Tracts and Block Groups in Study Area

Caldwell Tracts

9801
9802
9803

Crittenden Tracts

9901
9904

Lyon Tracts

9601
9602

Livingston Tracts

0402
0401

Block Groups are labeled (ex. 001) individually inside each Tract

POPULATION BY POVERTY LEVEL

The poverty levels of the population in the study area were compared to the overall poverty levels of the Counties, the State of Kentucky and the nation. Table 2A indicates that 12% of the national population is below the poverty level. Kentucky has a higher population poverty level of 15.4%. Table 2B indicates some tracts and block groups with significantly higher percentages below the poverty level. Census tract 9802 in Caldwell County including block group 004 has a high poverty level. Although this block group has an elevated concentration of individuals age 0-17 below the poverty level, only a minimal part of the block group is included in the project area. The concentration of individuals below the poverty level is located outside of the project study area. Census tract 9802 has a population of 21.2% below the poverty level. Block groups 003, 004, and 005 have poverty levels of 18.8%, 34.0%, and 20.9% respectively. Other census tracts and block groups in Caldwell County were higher than the national average but lower than both the state and county averages: block group 002 of census tract 9801, census tract 9803, and specifically block group 004 of census tract 9803.

Several block groups in Lyon County were also identified to have poverty levels between the national and state averages. In census tract 9601, block group 003 has a poverty level of 12.9% and block group 005 has a level of 12.7%. Block group 001 in census tract 9602 has a poverty level of 14.4%. These percentages are slightly above the national average of 12.0% and county level of 10.3%, but are lower than the state average of 15.4%. These percentages are slightly above the national and county averages due to a concentration of trailer parks in the census block. This concentration of trailer parks will not be directly affected by the project.

Members of the project area community focus group were consulted to confirm this conclusion about the study area. They did not recognize any significant concentrations of the population below the poverty level that would be directly affected by the project. It appears that this project would have little impact on populations below the poverty level in Caldwell, Crittenden, Livingston, and Lyon Counties.

POPULATION BY AGE GROUP

The age levels of the population in the study area were compared to the overall age levels of the counties, the State of Kentucky and the nation. Examining Tables 3A and 3B shows that some block groups in the study area have a slightly higher percentage of people age 18-64 and consistently higher percentages of the population over 65. This is consistent with the percentages of the population for each of the counties involved because of the increased number of retired individuals moving to the lakes area. The national population over 65 was 12.4% and the state level was 12.5%. Caldwell, Crittenden, Livingston, and Lyon Counties all exceeded the national and state averages for population over 65.

Members of the project area community focus group were consulted to confirm this conclusion about the study area. They did not recognize any significant concentrations of

individuals of a particular age group. It appears that this project would have little impact on populations of a particular age group in Caldwell, Crittenden, Livingston, and Lyon Counties.

Table 1A - Comparison Table for 2000 Population by Race: Nation, State, Counties													
Political/Census Division	White	Percent of Population	Black	Percent of Population	American Indian	Percent of Population	Asian	Percent of Population	Hispanic*	Percent of Population	Other	Percent of Population	Total Population
United States	211,460,626	75.1%	34,658,190	12.3%	2,475,956	0.9%	10,242,998	3.6%	35,305,818	12.5%	22,584,136	8.0%	281,421,906
Kentucky	3,640,889	90.1%	295,994	7.3%	8,616	0.2%	29,744	0.7%	59,939	1.5%	66,526	1.6%	4,041,769
Caldwell County	12,262	93.9%	628	4.8%	19	0.1%	21	0.2%	80	0.6%	130	1.0%	13,060
Crittenden County	9,219	98.2%	61	0.7%	14	0.1%	8	0.1%	48	0.5%	82	0.9%	9,384
Livingston County	9,656	98.5%	14	0.1%	41	0.4%	3	0.0%	74	0.8%	90	0.9%	9,804
Lyon County	7,422	91.9%	543	6.7%	24	0.3%	14	0.2%	59	0.7%	77	1.0%	8,080

Table 1B - 2000 Population by Race: Census Tracts and Block Groups within and near the Study Area													
Census Block Group	White	Percent of Population	Black	Percent of Population	American Indian	Percent of Population	Asian	Percent of Population	Hispanic*	Percent of Population	Other	Percent of Population	Total Population
Tract 9801-Caldwell	2,200	98.5%	15	0.7%	2	0.1%	2	0.1%	9	0.4%	15	0.7%	2,234
Block Group 001	1,198	99.1%	0	0.0%	2	0.2%	2	0.2%	1	0.1%	7	0.6%	1,209
Block Group 002	1,002	97.8%	15	1.5%	0	0.0%	0	0.0%	8	0.8%	8	0.8%	1,025
Tract 9802-Caldwell	4,625	88.4%	516	9.9%	9	0.2%	10	0.2%	42	0.8%	70	1.3%	5,230
Block Group 003	1,124	96.2%	30	2.6%	0	0.0%	4	0.3%	3	0.3%	11	0.9%	1,169
Block Group 004	811	94.2%	35	4.1%	1	0.1%	3	0.3%	7	0.8%	11	1.3%	861
Block Group 005	1,429	98.9%	3	0.2%	3	0.2%	0	0.0%	4	0.3%	10	0.7%	1,445
Tract 9803-Caldwell	5,437	97.2%	97	1.7%	8	0.1%	9	0.2%	29	0.5%	45	0.8%	5,596
Block Group 004	1,054	98.1%	10	0.9%	3	0.3%	1	0.1%	3		6	0.6%	1,074
Tract 9904-Crittenden	1,811	98.8%	0	0.0%	4	0.2%	7	0.4%	8	0.4%	11	0.6%	1,833
Block Group 002	764	99.1%	0	0.0%	0	0.0%		0.0%	7	0.9%	7	0.9%	771
Tract 402-Livingston	6,524	98.5%	7	0.1%	33	0.5%	2	0.0%	57	0.9%	60	0.9%	6,626
Block Group 005	1,010	98.2%	0	0.0%	6	0.6%	0	0.0%	4	0.4%	12	1.2%	1,028
Tract 9601-Lyon	5,789	90.1%	540	8.4%	21	0.3%	13	0.2%	45	0.7%	60	0.9%	6,423
Block Group 001	1,348	83.7%	246	15.3%	0	0.0%	3	0.2%	14	0.9%	14	0.9%	1,611
Block Group 002	1,743	86.8%	230	11.5%	7	0.3%	5	0.2%	20	1.0%	23	1.1%	2,008
Block Group 003	996	94.1%	45	4.3%	6	0.6%	4	0.4%	8	0.8%	7	0.7%	1,058
Block Group 004	807	96.6%	17	2.0%	8	1.0%	0	0.0%	1	0.1%	3	0.4%	835
Block Group 005	895	98.2%	2	0.2%	0	0.0%	1	0.1%	2	0.2%	13	1.4%	911
Tract 9602-Lyon	1,633	98.6%	3	0.2%	3	0.2%	1	0.1%	14	0.8%	17	1.0%	1,657
Block Group 001**	1,633	98.6%	3	0.2%	3	0.2%	1	0.1%	14	0.8%	17	1.0%	1,657

*Population of Hispanic Origin is included as White. Source: 2000 U.S. Census

Table 2A - Comparison Table for 1999 Population by Poverty Level: Nation, State, Counties								
Political/Census Division	Population Below Poverty Level	% of Total Population	Age 0-17	% of Total Population	Age 18-64	% of Total Population	Age 65+	% of Total Population
United States	33,899,812	12.0%	11,746,858	4.2%	18,865,180	6.7%	3,287,774	1.2%
Kentucky	621,096	15.4%	203,547	5.0%	350,072	8.7%	67,477	1.7%
Caldwell County	2,031	15.6%	595	4.6%	1,092	8.4%	344	2.6%
Crittenden County	1,766	18.8%	670	7.1%	872	9.3%	224	2.4%
Livingston County	994	10.1%	244	2.5%	529	5.4%	221	2.3%
Lyon County	831	10.3%	221	2.7%	452	5.6%	158	2.0%

Table 2B - 1999 Population by Poverty Level: Census Tracts and Block Groups within the Study Area								
Census Block Group	Population Below Poverty Level	% of Total Population	Age 0-17	% of Total Population	Age 18-64	% of Total Population	Age 65+	% of Total Population
Tract 9801-Caldwell	214	9.6%	47	2.1%	129	5.8%	38	1.7%
Block Group 001	84	6.9%	10	0.8%	51	4.2%	23	1.9%
Block Group 002	130	12.9%	37	3.7%	78	7.7%	15	1.5%
Tract 9802-Caldwell	1,109	21.2%	335	6.4%	613	11.7%	161	3.1%
Block Group 003	218	18.8%	59	5.1%	123	10.6%	36	3.1%
Block Group 004	259	34.0%	105	13.8%	110	14.5%	44	5.8%
Block Group 005	300	20.9%	86	6.0%	183	12.8%	31	2.2%
Tract 9803-Caldwell	708	12.7%	213	3.8%	350	6.3%	145	2.6%
Block Group 004	161	15.0%	34	3.2%	72	6.7%	55	5.1%
Tract 9904-Crittenden	206	11.2%	62	3.4%	79	4.3%	65	3.5%
Block Group 002	32	4.0%	0	0.0%	25	3.1%	7	0.9%
Tract 402-Livingston	596	9.0%	118	1.8%	344	5.2%	134	2.0%
Block Group 005	89	8.8%	8	0.8%	67	6.6%	14	1.4%
Tract 9601-Lyon	592	9.2%	145	2.3%	323	5.0%	124	1.9%
Block Group 001	104	6.5%	21	1.3%	54	3.4%	29	1.8%
Block Group 002	181	9.0%	33	1.6%	105	5.2%	43	2.1%
Block Group 003	137	12.9%	48	4.5%	76	7.2%	13	1.2%
Block Group 004	54	6.5%	7	0.8%	37	4.4%	10	1.2%
Block Group 005	116	12.7%	36	4.0%	51	5.6%	29	3.2%
Tract 9602-Lyon	239	14.4%	76	4.6%	129	7.8%	34	2.1%
Block Group 001**	239	14.4%	76	4.6%	129	7.8%	34	2.1%

*Population of Hispanic Origin is included as White. Source: 2000 U.S. Census

** Census Tract 9602 consists of only one Block Group.

Table 3A - Comparison Table for 2000 Population by Age Group: Nation, State, & Counties							
Political/Census Division	Age 0-17	Percent of Total	Age 18-64	Percent of Total	Age 65+	Percent of Total	Total
United States	72,293,812	25.7%	174,136,341	61.9%	34,991,753	12.4%	281,421,906
Kentucky	994,818	24.6%	2,542,158	62.9%	504,793	12.5%	4,041,769
Caldwell County	2927	22.4%	7785	59.6%	2,348	18.0%	13,060
Crittenden County	2178	23.2%	5677	60.5%	1,529	16.3%	9,384
Livingston County	2188	22.3%	6153	62.8%	1463	14.9%	9,804
Lyon County	1275	15.8%	5448	67.4%	1357	16.8%	8,080

Table 3B - 2000 Population by Age Group: Census Tracts and Block Groups within the Study Area							
Census Block Group	Age 0-17	Percent of Total	Age 18-64	Percent of Total	Age 65+	Percent of Total	Total
Tract 9801-Caldwell	515	23.1%	1382	61.9%	337	15.1%	2,234
Block Group 001	239	19.5%	786	64.2%	199	16.3%	1,224
Block Group 002	276	27.3%	596	59.0%	138	13.7%	1,010
Tract 9802-Caldwell	1207	23.1%	3053	58.4%	970	18.5%	5,230
Block Group 003	334	28.6%	618	52.9%	216	18.5%	1,168
Block Group 004	159	18.2%	511	58.6%	202	23.2%	872
Block Group 005	302	20.8%	930	64.2%	217	15.0%	1,449
Tract 9803-Caldwell	1197	21.4%	3358	60.0%	1041	18.6%	5,596
Block Group 004	191	17.8%	661	61.6%	221	20.6%	1,073
Tract 9904-Crittenden	383	20.6%	1148	61.7%	330	17.7%	1,861
Block Group 002	136	17.0%	511	64.0%	152	19.0%	799
Tract 402-Livingston	1520	22.9%	4263	64.3%	843	12.7%	6,626
Block Group 005	157	15.4%	696	68.4%	164	16.1%	1,017
Tract 9601-Lyon	932	14.5%	4470	69.4%	1036	16.1%	6,438
Block Group 001	155	9.6%	1332	82.1%	135	8.3%	1,622
Block Group 002	263	13.1%	1443	71.7%	306	15.2%	2,012
Block Group 003	242	23.1%	685	65.5%	119	11.4%	1,046
Block Group 004	75	8.9%	433	51.5%	333	39.6%	841
Block Group 005	197	21.5%	577	62.9%	143	15.6%	917
Tract 9602-Lyon	332	20.2%	984	59.9%	326	19.9%	1,642
Block Group 001**	332	20.2%	984	59.9%	326	19.9%	1,642

*Population of Hispanic Origin is included as White. Source: 2000 U.S. Census

** Census Tract 9602 consists of only one Block Group.

OTHER POPULATIONS

There are no other populations identified by community focus group, beyond the Census data obtained, that indicate significant impacts from the US 641 relocation project. This includes any Amish or other religious communities and any other issues of importance to this project area.

COMMUNITY IMPACTS

The relocation/reconstruction of US 641 between Eddyville in Lyon County and Fredonia in Caldwell County continues the effort to make Crittenden County more accessible to industry. Together with the US 641 extension from Fredonia to Marion, these two projects on US 641 will greatly improve transportation within and to Crittenden County.

STUDY FINDINGS

It appears that the US 641 relocation/reconstruction will have little or no impact on minority communities in Caldwell, Crittenden, Livingston, and Lyon Counties.

APPENDIX

Study Area US 641 Environmental Justice and Community Impact Report: Community Focus Group Member Contact List



Pennyrile Area Development District

a regional planning and development agency

300 Hammond Drive, Hopkinsville, KY 42240

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www.peadd.org

email peadd@peadd.org

August 12, 2003

(See Dissemination List)

Subject: Study Area US 641 Environmental Justice and Community Impact Report

Hello:

We would appreciate your help in evaluating the study area on the enclosed map. Before the Environmental Justice and Community Impact Report for the US 641 Highway relocation project from Fredonia to Eddyville can be completed, PADD needs to determine which Census Tracts and Block Groups are pertinent for the report. With your approval, we will use the study area shown on the enclosed map. This is the same study area outlined on the Project Location map that was included in the Agenda from the July 29th Local Officials Meeting. It spans across four counties and includes the following Census Tracts and Block Groups:

- 9601 (001, 002, 003, 004, 005) – Lyon County
- 9602 (001) – Lyon County
- 9801 (001, 002) – Caldwell County
- 9802 (003, 004, 005) – Caldwell County
- 9803 (004) – Caldwell County
- 402 (005) – Livingston County
- 9904 (002) – Crittenden County

If any of these Tracts or Block Groups are unnecessary for the Environmental Justice and Community Impact Report, or if there are additional Block Groups that you would like to see included, please let us know. If you have any questions, please feel free to phone me at (270) 886-9484, or email me at jess.reagan@mail.state.ky.us.

Sincerely,

Jess Reagan
Research Planning Assistant

Enclosure

Study Area US 641 Environmental Justice and Community Impact Report

Community Focus Group Member Contact List

Mayor Judith Stone
City of Eddyville
P.O. Box 744
Eddyville, KY 42038

Judge Jim Boyd
Lyon County Courthouse
P.O. Box 598
Eddyville, KY 42038

Judge Van Knight
Caldwell County Courthouse
100 East Market Street
Princeton, KY 42445

Mayor Robert Beck
City of Fredonia
P.O. Box 34
Fredonia, KY 42411

Mayor Vickie Hughes
City of Princeton
206 N. Jefferson
Princeton, KY 42445

Level 1 Screening (Project Goals)

Alternative Corridor	Length of Corridor (miles)	Travel Time (minutes)					Level of Access to Industrial Development	Effectiveness as an alternate truck route for US 641	Summary
		Corridor	I-24 @ Livingston / Lyon County Line	I-24 @ Wendell H. Ford (WK) Parkway	Wendell H. Ford (WK) Parkway at County Line	Kentucky Dam Village State Resort Park	Mineral Mounds State Park		
No Build	9.8	11.4	20.4	16.5	14.9	28.3	15.6	Low	Low
1	9.3	9.3	20.7	14.1	9.3	28.6	17.8	High	Medium
1A	9.8	9.8	21.2	14.6	9.8	29.1	18.3	High	Medium
2	9.4	9.4	18.4	14.5	12.9	26.3	13.6	Medium	High
2A	9.9	9.9	18.9	15.0	13.4	26.8	14.1	Medium	High
2B	10.1	10.1	18.2	11.6	13.4	26.2	13.6	High	High
2C	10.6	10.6	18.7	12.1	13.9	26.7	14.1	High	High
3	13.0	13.0	15.9	16.8	21.5	23.8	19.8	Low	Low
3A	14.4	14.4	17.3	18.2	22.9	25.2	21.2	Medium	Medium
3B	10.6	10.6	17.0	14.0	16.7	24.9	13.8	Low	Medium
3C	12.0	12.0	18.4	15.4	18.1	26.3	15.2	Low	Low
3D	10.9	10.9	18.1	15.1	16.2	26.0	13.3	Low	Low
3E	12.3	12.3	19.5	16.5	17.6	27.4	14.7	Low	Low
4	9.4	9.4	19.2	10.9	11.0	27.1	16.3	High	High
4A	9.9	9.9	19.7	11.4	11.5	27.6	16.8	High	High

Level 1 Screening (Environmental)

Alternative Corridor	Environmental Concerns															Summary	
	Water Lines	Sewer Lines	Streams	Utility Lines	Fault Lines	Archaeology Sites	Dry & Abandoned Well (Oil/Gas)	Historic Structure	PLS-EPA Site	RCRIS-EPA Site	Cemetery	Church	Waterwell	Relocation Impacts	Prime Farmland Impact		Additional Concerns
1	3	1	9	2	5	1	1	1	1	0	1	0	0	55	High	Part of Rock Quarry & W. KY St. Pen Farm	Low
1A	3	1	6	2	4	1	2	4	0	0	1	0	0	44	High	Part of W. KY St. Pen Farm	Low
2	9	8	6	2	3	1	2	5	1	2	0	1	1	108	Medium		Medium
2A	10	8	8	2	4	1	1	2	1	2	0	1	1	115	Low		Medium
2B	12	5	6	3	3	1	2	5	1	2	0	1	2	138	Medium		High
2C	14	5	9	3	5	1	2	2	1	2	0	1	2	145	Low		High
3	12	0	11	3	2	1	2	4	0	0	0	0	0	95	High		Medium
3A	10	2	17	3	3	1	1	1	1	0	0	0	0	100	Medium		Low
3B	8	0	7	2	3	1	2	4	0	1	0	0	0	96	High		Medium
3C	6	2	14	2	4	1	1	1	1	1	0	0	0	111	Medium		Low
3D	17	7	6	2	4	2	2	4	0	1	0	0	0	143	High		High
3E	15	9	14	2	4	2	1	1	1	1	0	0	0	158	Medium		High
4	5	4	6	2	3	2	2	5	1	0	0	0	0	48	Medium	Part of W. KY St. Pen. Farm	Medium
4A	6	4	8	2	4	2	1	2	1	0	0	0	0	63	Low	Part of W. KY St. Pen. Farm	Low

Level 1 Screening (Cost)

Alternative Corridor	Length of Corridor (miles)	Cost Per Mile	Maintenance of Traffic Adjustment	Adjusted Cost Per Mile	Subtotal	Interchange	Railroad Crossing	Total*
No Build	9.8	\$0		\$0	\$0			\$0
1	9.3	\$8,000,000		\$8,000,000	\$74,400,000	\$15,000,000		\$89,400,000
1A	9.8	\$8,000,000		\$8,000,000	\$78,400,000	\$15,000,000		\$93,400,000
2	9.4	\$8,000,000	10%	\$8,800,000	\$82,720,000		\$3,000,000	\$85,720,000
2A	9.9	\$8,000,000	12%	\$8,960,000	\$88,704,000		\$3,000,000	\$91,704,000
2B	10.1	\$8,000,000	12%	\$8,960,000	\$90,496,000	\$15,000,000	\$3,000,000	\$108,496,000
2C	10.6	\$8,000,000	14%	\$9,120,000	\$96,672,000	\$15,000,000	\$3,000,000	\$114,672,000
3	13.0	\$8,000,000		\$8,000,000	\$104,000,000	\$15,000,000		\$119,000,000
3A	14.4	\$8,000,000	10%	\$8,800,000	\$126,720,000	\$15,000,000		\$141,720,000
3B	10.6	\$8,000,000	8%	\$8,640,000	\$91,584,000		\$3,000,000	\$94,584,000
3C	12.0	\$8,000,000	12%	\$8,960,000	\$107,520,000		\$3,000,000	\$110,520,000
3D	10.9	\$8,000,000	8%	\$8,640,000	\$94,176,000		\$3,000,000	\$97,176,000
3E	12.3	\$8,000,000	12%	\$8,960,000	\$110,208,000		\$3,000,000	\$113,208,000
4	9.4	\$8,000,000		\$8,000,000	\$75,200,000	\$10,000,000		\$85,200,000
4A	9.9	\$8,000,000	8%	\$8,640,000	\$85,536,000	\$10,000,000		\$95,536,000

* Estimate includes costs for all phases of work including preliminary engineering, design, right of way, utilities, and construction.

Level 1 Screening Assumptions

The assumptions used to arrive at conclusions reached in the Level 1 Screening are presented below:

Cost

Cost per Mile: The cost per mile applied to each corridor was \$8,000,000 and is assumed to cover all future project phases.

Maintenance of Traffic Adjustment: A factor was applied to each corridor where access management and maintenance of traffic issues were anticipated due to portions of the corridor following an existing route. A 10% factor was assumed and factored based on the impacted length of the corridor.

Interchange: All corridors terminating at I-24 or the Wendell H. Ford Parkway would require an interchange estimated to cost \$15,000,000. Alternatives 4 and 4A would utilize an existing interchange that would require upgrading. The assumed upgrade cost was \$10,000,000.

Railroad Crossing: All corridors crossing the Paducah and Louisville Railway were assumed to require a grade separated crossing estimated to cost \$3,000,000.

Environmental

Water Lines: All main and branch lines were counted within each corridor.

Archaeology Sites: All known archaeology sites (3) are just outside of the corridor. However, we felt they were still worth noting.

Relocation Impacts: Using aerial photography, the number of homes within each corridor was estimated. Keep in mind that each corridor is 2000' wide; therefore, not all of the homes would need to be relocated.

Prime Farmland Impacts: The impact on prime farmland was estimated in three ranges, with high meaning that a high level of impact is expected. What is and isn't prime farmland was determined from the aerial photography.

Project Goals

Travel Time: The destinations selected for travel time calculations were chosen to address access to both recreational facilities and the National Highway System. These serve to address several of the points highlighted in the first two goals. Travel speed was estimated to be (1) five miles per hour (mph) above the speed limit for the interstates, parkways, and proposed US 641 corridor and (2) the speed limit for all other

facilities. Travel speed was then multiplied by the corridor length to determine travel time.

Level of Access to Industrial Development: A low, medium, or high rating was assigned to each corridor based on how well that corridor appeared to provide access to the proposed Lyon County Industrial Park and other existing industrial facilities.

Effectiveness as an Alternate Truck Route for US 641: Based on a preliminary select link analysis of US 641 using the Statewide Traffic Model, it was determined that more trucks travel to and from the Memphis area than any other direction. Although more trucks go southwest, and therefore benefit from a western corridor, it was felt the corridor could not be too far from the existing US 641 corridor. If the corridor was too far to the west and didn't provide adequate connection to existing US 641, all other trucks would still use the existing corridor because a western corridor would take them too far out of the way. On the other hand, an eastern corridor, may take you too far out of the way for those seeking to go west.

A low, medium, or high rating was assigned to each corridor, with a low meaning the proposed corridor did not serve effectively as an alternate truck route for US 641.

Summary

Travel Time: Travel speed was estimated to be 60 mph along the new corridor. Travel speed was then multiplied by the corridor length to determine travel time.

Interchange Suitability: According to the Green Book (page 811), interchange spacing is recommended to be a minimum of 1 mile for an urban area and 2 miles for a rural area. It is noted where these corridors may not meet these requirements. There is also a question about whether some of the locations would be considered urban or rural.

Project Phasing Suitability: Understanding the entire corridor would likely not be built all at once, logical phasing breaks were evaluated. Ratings of low, medium, or high were assigned with a high rating meaning that the corridor, most likely, could be built in logical segments.

Safety Concerns: At this stage, no safety differences are anticipated between each proposed corridor. However, there could be safety concerns if the southern terminus does not provide access to a parkway or interstate because through trucks would remain on portions of the "local" road system. All corridors providing parkway or interstate access were rated as having low impacts, meaning there are minimal safety concerns.

Number of Intersecting US and State Routes: All state and US routes intersecting the proposed corridor were included in this calculation including the terminus roadways. Corridors providing the most access to the state and US routes were considered good, while corridors providing the least access were considered less desirable.

Environmental Impacts: A general low, medium, or high rating was applied to the environmental summary discussed previously.

Compatibility with Preliminary Project Goals: A general low, medium, or high rating was applied to the project goals summary discussed previously.

Public Comments Support Alternatives: A summary of the public meetings showed that 40 percent of the public meeting attendees preferred a connection to I-24 compared to 29 percent each for the Wendell H. Ford Parkway and US 62. When asked, more specifically, at what location, 16 percent felt it should be near the weigh station along I-24. Another 15 percent felt the southern terminus should be near the I-24/US 62 interchange. Ten percent felt it should be near the existing US 62/US 641 intersection, while another ten percent felt it should be near the Wendell H. Ford Parkway and US 62 interchange. All other options received less than ten percent support. The public meeting attendees felt the two biggest environmental features to avoid were personal properties or homes and prime farmland. Taking these results into consideration, a low, medium, or high rating was applied to each proposed corridor. A high rating meant that the corridor most closely met the publics' preferences.

Recommendations: A rating of low, low-medium, medium, medium-high, or high was assigned to each proposed corridor based on how well it met the established criteria.

ENVIRONMENTAL OVERVIEW DATA

for

LYON and CALDWELL COUNTIES US 641 CORRIDOR FROM EDDYVILLE TO FREDONIA ITEM NUMBER: NOT ASSIGNED

Prepared For

**KENTUCKY TRANSPORTATION CABINET
DIVISION OF PLANNING**

Prepared By

**Palmer Engineering
400 Shoppers Drive
Winchester, Kentucky 40392
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**JUNE 2004
Revised July 2004**

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**Environmental Overview Data
for
Lyon and Caldwell Counties: US 641 Corridor: From Eddyville to Fredonia**

INTRODUCTION

This report presents a general overview of the environmental framework of the study corridor project area for the improvement/reconstruction of US 641 from the Eddyville vicinity in Lyon County extending north to the Fredonia vicinity in Caldwell County (see Exhibit 1). It provides preliminary information on key environmental issues, which may represent constraints upon project location within the study corridor, including potential Section 106, Section 4(f), and ecological elements. The information presented is based on readily available public records and archival research supplemented with limited field reconnaissance and windshield surveys conducted by subject matter environmental experts.

GENERAL CHARACTERISTICS OF THE PROJECT AND PROJECT AREA

Project Description and Purpose:

Initial Screening of Corridor Alternates:

At an early stage in the study process, the Kentucky Transportation Cabinet (KYTC) project team, local officials, stakeholders, interest groups, and the public were asked to provide input on potential alternative corridor locations. Based on this input and a preliminary environmental footprint of the study area, and after further analysis, 12 corridor alternates were developed by the prime consultant, Wilbur Smith Associates (WSA).

At the request of the Kentucky Transportation Cabinet, an initial screening was conducted by WSA to determine which, if any, of the 12 alternates should be removed from future consideration in the study. Screening criteria were developed, giving consideration to the project purpose and need (based on preliminary project goals and objectives), potential environmental and community impacts, planning level cost estimates, public input, and transportation and traffic issues.

The results of the initial screening were then presented to the project team. Through a series of discussions, two (2) additional alternate corridors were added, for a total of 14 alternates. With additional alternates, the initial screening was re-evaluated. A rating of low, low-medium, medium, medium-high, or high was assigned to each proposed corridor based on how well it met the established screening criteria.

Based on the initial screening results, the project team agreed to carry forward eight (8) corridors with the highest overall rating to the next level of analysis. Environmental issues related to these eight corridor alternates are addressed further in this report.

The existing US 641 corridor, between the study area southern terminus at US 62 in Eddyville and the northern terminus on US 641 near the Caldwell County - Crittenden County line north of Fredonia, is a narrow, two lane roadway through rolling, rural terrain. The distance is approximately 10 miles. Due to less than optimal roadway geometry and frequent access points, driving speeds generally range from 45 to 55 mph. The route section is posted for 55 mph. The proposed project would involve the reconstruction and/or construction on new location of this section of US 641.

The proposed project would begin at one of four initial study locations in the vicinity of Eddyville (see Exhibit 2). The easternmost of these locations would begin with a new interchange at the Western Kentucky Parkway. The westernmost location would begin with a new interchange at I-24. The two central locations would begin with intersections at US 62. From the beginning points northward to the Caldwell-Crittenden County line, several combinations of study corridors were developed for examination. The US 641 study corridors between the terminal points are approximately 1,000 feet on either side of the preliminary projected centerline or existing road throughout the corridor length (see Exhibit 2). The study corridors vary in length from approximately 7 miles to approximately 11 miles. The study corridors are described as follows (see Exhibit 2):

Alternative 1: The southern terminus would be a new interchange proposed along the Wendell H. Ford Parkway at the Caldwell/Lyon County Line. The corridor would follow the county line to an intersection with existing US 641. The corridor would then turn due north. At KY 70 the corridor would curve to the northwest around Fredonia to an intersection with the proposed US 641 north of the existing US 641.

Alternative 1A: The southern terminus would be a new interchange proposed along the Wendell H. Ford Parkway at the Caldwell/Lyon County Line. The corridor would follow the county line to the Fredonia Quarry and then proceed northwest through the northeast corner of Lyon County and into Caldwell County. The corridor would continue north on the western side of Fredonia to a terminus with US 641 northwest of Fredonia.

Alternative 2: Starting at the existing US 641 and US 62 intersection and proceeding north along existing US 641, Alternative 2 would follow US 641 to just north of the entrance for the West Kentucky State Penitentiary Farm. The corridor would continue northwest to a point just south of the Caldwell/Lyon County Line. The corridor would proceed north crossing the Caldwell/Lyon County Line and continue north on the western side of Fredonia to a terminus with US 641 northwest of Fredonia.

Alternative 2A: Starting at the existing US 641 and US 62 intersection and proceeding north along existing US 641, Alternative 2A would follow US 641 to the Fredonia Quarry. The corridor would then turn due north. At KY 70 the corridor would curve to the northwest around Fredonia to an intersection with the proposed US 641 north of the existing US 641.

Alternative 3: Alternative 3 would have a southern terminus along I-24 between the Paducah and Louisville railroad crossing and KY 810. The corridor would continue northeast intersecting KY 93, KY 819, KY 295 and KY 373. The corridor would continue northeast west of existing US 641. The corridor will cross KY 1943 turning due north and intersecting Alternative 2 just south of the Caldwell/Lyon County Line. Similar to Alternative 2, the corridor would proceed north crossing the Caldwell/Lyon County Line and continue north on the western side of Fredonia to a terminus with US 641 northwest of Fredonia.

Alternative 3A: Alternative 3 would have a southern terminus along I-24 between the Paducah and Louisville Railroad crossing and KY 810. The corridor would continue northeast intersecting KY 93, KY 819, KY 295 and KY 373. The corridor then turns more to the east and intersects existing US 641 just south of KY 1943. The corridor then follows the same path as Alternative 2A. The corridor would follow US 641 to the Fredonia Quarry. The corridor would then turn due north. At KY 70 the corridor would curve to the northwest around Fredonia to an intersection with the proposed US 641 north of the existing US 641.

Alternative 4: Alternative 4 would have a southern terminus at the US 62 and Wendell H. Ford Parkway interchange. US 62 and/or the interchange would be reconfigured to make US 641 the primary direction. The corridor would follow along the western edge of the West Kentucky State Penitentiary Farm. The corridor would cross existing US 641 at the West Kentucky State Penitentiary Farm entrance. The corridor would continue northwest to a point just south of the Caldwell/Lyon County Line. The corridor would proceed north crossing the Caldwell/Lyon County Line and continue north on the western side of Fredonia to a terminus with US 641 northwest of Fredonia.

Alternative 4A: Alternative 4A would have a southern terminus at the US 62 and Wendell H. Ford Parkway interchange. US 62 and/or the interchange would be reconfigured to make US 641 the primary direction. The corridor would follow along the western edge of the West Kentucky State Penitentiary Farm. The corridor would merge into existing US 641 at the West Kentucky State Penitentiary Farm entrance. The corridor would then follow the same path as Alternatives 2A and 3A. The corridor would follow US 641 to the Fredonia Quarry. The corridor would then turn due north. At KY 70 the corridor would curve to the northwest around Fredonia to an intersection with the proposed US 641 north of the existing US 641.

There are several objectives which define the purpose for this project. Principally, the project would be expected to provide improved highway system connectivity and regional access, enhanced travel safety, and economic development potential along a reconstructed or new US 641 section. The project would yield safer, more efficient driving conditions on US 641 between the cities of Eddyville and Fredonia. The project would also be expected to improve and enhance access from Crittenden County and northwestern Caldwell County to jobs, medical centers, services, shopping, and recreational opportunities in Eddyville, Paducah, and the Kentucky Lake-Lake

Barkley areas. Local industries and commerce within the area and along the route would also be expected to benefit and route improvements would provide necessary conditions for opening up this area to greater economic development potential. Access to bodies of government, social services, and emergency response would also be enhanced by roadway improvements. The project could bring to the local communities in the project area the potential for changes that may be important to the future quality of life of area residents, through improvements in vehicular access, fewer accidents, reduced driving time, convenience, consistency of travel expectations, better emergency response time, and economic growth possibilities.

Project Area Physiological and Soil Characteristics:

The US 641 corridor is located in Caldwell and Lyon Counties. These counties fall within the western part of the Mississippian Plateau (Pennyroyal or Pennyryle) Physiographic Region. This area can be characterized by a well-developed karst plain on which hundreds of sinkholes, sinking creeks, springs and other features associated with underground drainage in a limestone terrain are found. The project corridor also falls within the Lower Cumberland River Basin. Long, steep or moderately steep hillsides with narrow ridge-tops and branched bottoms characterize this area. Caldwell County includes the Dripping Springs escarpment, an upland area of sandstone-capped hills and broken ridges, which rises 150 to 200 feet above the karst plain. The vicinity of Fredonia is a particularly conspicuous example of the Dripping Springs Escarpment. In addition, part of Caldwell County is in the mineral region known as the Illinois-Kentucky fluorspar district, which is characterized by a large number of fractures (faults) in the rocks. The effects of faulting are reflected in the topography of the area as straight ridges and linear arrangement of sinkholes.

The Fredonia, Eddyville and Grand Rivers Geologic Quadrangles provided by the United States Geological Survey (USGS) show collectively six faults located in the US 641 project area, four of which are part of the Tabb Fault System just north of Fredonia. The Fredonia Valley Quarry is located just east of Alternate 1 in the Fredonia Limestone Member of the Ste. Genevieve Limestone formation. The quarry produces high calcium limestone, agricultural limestone, and crushed limestone aggregate. In addition the project corridor contains thirteen geologic formations. These formations are:

- St. Louis Limestone Formation. The St. Louis Limestone Formation consists of two members, an upper and a lower. The upper member is approximately 240-250 feet thick and is composed primarily of limestone. The lower member is approximately 250 feet thick and also is composed primarily of limestone. All the alternates cross this formation and it is one of the more common formations found in the project corridor study.
- Ste. Genevieve Limestone Formation. This formation can be 275 to 300 feet thick and is composed of three members. The Levias Limestone member is approximately 20 to 30 feet thick and composed mainly of limestone that is partly oolitic, with shale laminae in the lower part. The second member, Rosiclare Sandstone, is 5 to 10 feet thick, and is composed mainly of sandstone and shale. The third member is Fredonia Limestone; it is approximately 275 feet thick and composed mainly of limestone. All

the alternates cross this formation and it is one of the most common formations found in the project corridor study.

- Alluvium Formation. The alluvium formation is the youngest formation. It is approximately 0 to 10 feet thick and is composed mainly of chert rubble, gravel, sand, silt and clay. It is found mainly in the floodplain areas of streams and river bottoms. This is one of the least common formations within the project corridor.
- Hardinsburg Sandstone Formation. The Hardinsburg Sandstone Formation is 130 to 150 feet thick and is composed mainly of sandstone with some shale. As much as 2 feet of coal can be found locally near the middle of the formation with thinner beds rare at other levels. This formation is found within the Tabb Fault System mainly at the northern most terminus of the project corridor.
- Tar Springs Sandstone Formation. The Tar Springs Sandstone Formation is approximately 90 to 120 feet thick. It is composed of sandstone, shale and siltstone. This formation is found near the northern most terminus of the project corridor at the Tabb Fault System.
- Menard Limestone Formation. The Menard Limestone Formation is 105 to 120 feet thick and is composed of mainly limestone and shale with abundant fossil fragments (brachiopods, gastropods). The project corridor crosses this formation near its northern terminus at the Tabb Fault System.
- Palestine Sandstone Formation. This formation is approximately 50 to 60 feet thick and is made up of sandstone and shale. It is crossed by the project corridor near its northern most terminus and is in the Tabb Fault System.
- Kinkaid Limestone Formation. The Kinkaid Limestone Formation consists of upper, middle, and lower members. The Upper member is approximately 20 to 25 feet thick and is composed primarily of limestone with sparse fossil debris and some sparse chert up to 6 inches thick. The Middle member is approximately 80 to 90 feet thick and consists of limestone, dolomitic limestone, dolomite, shale and sandstone. The Lower member is 35 to 40 feet thick and consists of limestone with sparse fossil fragment (brachiopods, gastropods). The project corridor crosses this formation near its northern most terminus at the Tabb Fault System.
- Degonia Sandstone Formation. The Degonia Formation is approximately 50 to 60 feet thick and is composed of sandstone and shale. The project corridor crosses this formation near its northern most terminus at the Tabb Fault System.
- Clore Limestone Formation. This formation can be as thick as 90 to 100 feet and consists of limestone and shale with sparse fossil fragments (brachiopods). The project corridor crosses this formation near its northern most terminus at the Tabb Fault System.
- Waltersburg Sandstone Formation. The Waltersburg Sandstone Formation is 20 to 40 feet thick and consists of sandstone, siltstone and shale. The project corridor crosses this formation near its northern most terminus at the Tabb Fault System.
- Vienna Limestone Formation. This formation is approximately 20 feet thick and is made up of limestone and shale containing sparse to common fossil fragments and chert nodules. The project corridor crosses this formation near its northern most terminus at the Tabb Fault System.
- Gravel Formation. This formation consists of chert pebbles in a quartz sand matrix. Most pebbles are less than 2 inches in length, but cobble as long as 4 inches are

common. Alternate 3 crosses this formation at its southern most terminus at the alternate's crossing with KY 93.

The general soil associations encountered by the proposed US 641 Corridors in Caldwell County are:

- Zanesville-Tilsit-Crider association: Gently rolling soils with fragipans, in thin loess over bedrock.
- Caneyville-Dekalb-Muskingum-Wellston association: Steep soils that are shallow to bedrock or commonly contain rock outcrops.
- Crider-Pembroke association: Gently rolling, deep, well-drained soils in loess and residuum over limestone.
- Crider-Russellville-Baxter association: Strongly rolling, deep, well-drained soils in loess and residuum over limestone.
- Crider-Russellville-Pembroke association: Irregularly rolling, deep well-drained soils in loess and residuum over limestone.

In Caldwell County the project corridor travels through pasture and agricultural soils (Hayes, 1966). These soils are used mainly for livestock and livestock products but also some crops such as tobacco, soybeans and corn are grown. Most of the upland soils are well drained or moderately well-drained. There are also highly erodible and hydric soils found within the project corridor in Caldwell County.

The general soil associations encountered by the proposed US 641 Corridors in Lyon County are:

- Baxter-Hammack association: Deep, steep to sloping, well-drained soils formed in cherty limestone residuum or in shallow loess and cherty limestone residuum; on uplands.
- Nicholson-Hammack association: Deep, gently sloping and sloping, moderately well-drained and well-drained soils formed in loess and cherty limestone residuum; on uplands.
- Crider-Pembroke association: Deep, gently sloping and sloping, well-drained soils formed in loess and limestone residuum; on karst uplands.
- Hammack-Baxter-Nicholson association: Deep, gently sloping to moderately steep, well-drained and moderately well drained soils formed in loess and cherty limestone residuum or in cherty limestone residuum; on karst uplands.

In Lyon County the project corridor travels through mainly agricultural soils (Humphrey 1981). The soils in this area are used for grains, burley tobacco, dark tobacco, alfalfa, soybeans, corn, wheat, pasture for cattle, hogs and other livestock. Most of the upland soils are well-drained or moderately well-drained. There are also hydric and highly erodible soils found within the project corridor in Lyon County.

Project Area Water Resources:

The topographical quadrangles provided by the USGS for the project corridor indicate that there are four blue-line streams encountered by the proposed US 641 corridor study. Skinframe Creek, Crab Creek, Brewster Creek and the headwaters of Spring Creek all lay within the project corridor study area. Alternates 2, 2A, 3, 3A, 4, and 4A encounter Skinframe Creek approximately 2.25 miles north of Eddyville in Lyon County. Alternates 3 and 3A cross Crab Creek just southwest of their intersection with KY 373. Alternates 1 and 1A cross Brewster Creek at the Lyon and Caldwell County line, 1.75 miles south of the Fredonia Quarry. Alternates 3 and 3A encounter the headwaters of Spring Creek near their southern most terminuses after their intersection with KY 819.

These creeks are all part of the Lower Cumberland River Basin and all occur in Lyon County, flowing in a west to northwesterly direction into Livingston Creek. Topographical quadrangle maps are not always accurate and may not always indicate all of the streams existing in the project area. Field surveys in future project phases are necessary to verify current stream locations and identify any streams not shown on the topographical quadrangle maps.

According to Kentucky Division of Water (KDOW), Groundwater Branch, there are numerous domestic water wells that exist in the project area, although very few are inventoried in state records. The KDOW indicated there are no Wellhead Protection Areas in the proposed project corridor.

Project Area Land Use:

The majority of the study corridor land use is agricultural. Development in the study corridors currently consists of single family residential and related outbuildings, and structures associated with farm operations. There are no trailer courts in the corridors and no apartment complexes or multi-family buildings in the study corridors. Most of the dwellings are fronting on US 641 or the county roads which provide their access. There are no large concentrations of houses such as residential subdivisions found in the study corridors. Local businesses are principally located in Fredonia and Eddyville. The Fredonia Quarry is located adjacent to study corridor Alternative 1, and an institutional land use, the West Kentucky State Penitentiary, is located between study corridors Alternative 1 and Alternative 4A (see Exhibit 2). Lyon and Caldwell Counties have no formal land use plans or zoning ordinances. No official existing or future land use plans incorporating the project study corridors are currently known to exist.

ENVIRONMENTAL OVERVIEW CONSIDERATIONS

Land Use:

Land use in the project area is not expected to change dramatically from current uses and trends. Due to the terrain in the study corridors and the dominant agricultural base of much of the adjacent area, the project is not expected to induce significant new housing or commercial

development nor result in unanticipated additional pressure on public services. Current land use applications and trends are expected to continue for the future. Additionally, the project would not be expected to interfere with any zoning or development plans which might be proposed in Lyon or Caldwell Counties, since local officials (County Judge-Executives, Chambers of Commerce) have indicated support for the improvement of US 641 and would accommodate infrastructure changes as may become needed.

Farmland is the most abundant resource in the project study area. The agricultural use is a mixture of pasture, cropland and subsistence gardens. Some individual garden plots, farm acreage, and farm support structures in the study corridors may be negatively effected, depending on the alternative selected. The farmland conversion required by any of the alternatives proposed would not represent a serious net loss of farmland along the project corridor or for the region as a whole, due to the large regional availability of arable land. However, efforts should be made in subsequent project phases to further define the effects of alternatives on individual agricultural complexes and reduce land conversion impacts by design modifications wherever practical. Coordination with the Natural Resources Conservation Service and development of Farmland Protection Policy Act (FPPA) farmland impact assessment evaluations will also be required in future project phases. The study corridors as currently configured, would not be expected to have any serious impacts on businesses or institutions as they are not present or are likely to be avoided.

Air Quality Considerations:

The U.S. Environmental Protection Agency (EPA) has established criteria for ambient levels of common transportation related air pollutants including ozone, carbon monoxide (CO), oxides of nitrogen (Nox) and total suspended particulates (TSP). The Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC) has adopted these same air quality standards. These National Ambient Air Quality Standards (NAAQS) have been promulgated to represent the maximum allowable air pollutant levels and characterize conditions that pose no significant threat to human health and welfare.

Pursuant to the 1990 Clean Air Act Amendments, the project area has been designated an attainment area for all transportation-related pollutants (CO, HC, NOx, and TSP). This project is in an area that does not require transportation control measures. Therefore, the Amended Final Conformity Guidelines issued by the U.S. Environmental Protection Agency and the U.S. Department of Transportation will not apply for this project. With respect to the latest conforming State Transportation Improvement Program (STIP), the proposed project is not included in the latest issue of the STIP (Fiscal Years 2003-2008). The project is also not included in the current Six Year State Highway Plan. The project would need to be added to the STIP and to the Six Year Plan prior to advancement beyond the project planning phase. Mobile source air pollution is not a problem in the project area and the existing ambient air environment is well within National Ambient Air Quality Standards (NAAQS). Therefore, no problems would be anticipated in adding this project to the STIP.

Based on project corridor “windshield” surveys and inspections, no air quality sensitive land uses or susceptible sites were observed. With the location of the corridor being in an attainment area and traffic volumes predicted for the design year (2025) expected to be low (<20,000ADT), it is

anticipated that concentrations of carbon monoxide will remain below both the one-hour standard (35ppm) and the eight-hour standard (9ppm) regardless of the alternative alignment used. In accordance with KYTC/DEA Position Paper 006-2000, a microscale analysis following the guidance specified in *Air Quality Guidance for Project Level Analysis*, revised October 2000, will be required for this project. Project level emission inventories will need to be developed because the project does not originate from a conforming STIP.

Finally, construction period air quality impacts will need to be evaluated to expose the potential short-term effects of site preparation, demolition, open burning, materials storage and construction actions to determine if any appropriate mitigation commitments are to be incorporated into the project plans.

Highway Noise Considerations:

Highway noise levels, at this time, are not expected to be a major concern on this project. Most receptors are isolated single structures, and several of the potential receptors (residences) may be acquired for project construction. With no concentrations of impacted noise receptors throughout the project area, noise mitigation by sound barriers would not be practical. Due to the isolated nature of noise receptors, openings required for property access, and low cost-benefit considerations, as outlined within the context of KYTC's Noise Abatement Policy, noise abatement by structural barrier would not be likely. Given the rural nature of the project area, the vehicle mix, low traffic volumes, uncontrolled access, and the general absence of significant concentrations of sensitive receptors, highway noise impacts are not expected to influence project feasibility or location decisions. However, a project specific noise impact analysis will be required in upcoming project phases to verify noise impact conditions using the procedure for conducting field monitoring based on FHWA requirements and the KYTC Noise Abatement Policy.

Water Quality and Aquatic Ecosystem Factors:

The need for any channel changes will be determined by which alternate is chosen and its location relative to Skinframe Creek, Crab Creek, Brewster Creek and Spring Creek. The extent of construction activities involving aquatic resources will be revealed as the planning and design process progresses. The placement of bridge or culvert crossings could have adverse impacts. Not only will the natural riparian vegetation be lost where bridges are constructed, but also the increased sedimentation from accelerated erosion during construction could have adverse affects to the aquatic life. Prevention of excess sedimentation through the application of BMP's during daily construction activities will minimize water quality impacts.

KDOW recommends that because the project lies in a well-developed karst region where few detailed investigations have been conducted and due to the sensitivity of karst groundwater in project areas, best management practices (BMP's) should be employed and stormwater runoff from disturbed areas should be properly managed. KDOW also recommends that because this project will affect such a large uninvestigated karst recharge area, that all springs and sinking streams be systematically inventoried and monitored prior to and during any major highway

construction. Groundwater tracer studies should be conducted in order to understand the groundwater drainage systems that the construction activities will affect. Exceptionally sensitive sinking streams and karst windows should be protected from direct highway runoff with retention/infiltration basins.

KDOW also noted that the location and discharge data for springs is minimal for the proposed project corridor. One of the largest known springs is Mill Bluff Spring just one mile Southwest of Fredonia. It is labeled as “The Bluff” on the Fredonia topographic quadrangles. It has a low flow of 2.1 ft³/s, and probably drains the sinking stream to the east. It may also drain Sinking Fork of Livingston Creek to the Northeast. Proposed alternates 1A, 2, 3, and 4 lie between the spring and the sinking stream to the east.

Wild and Scenic Rivers and Monitored Habitats:

According to the Kentucky Division Of Water (KDOW), there are no wild or scenic rivers or Outstanding Water Resources within the project area. There are no exemplary natural communities, natural areas, recreational areas or wildlife and waterfowl refuges within the study corridors. Also, there are no outdoor recreational land and water areas or facilities established from grants-in-aid from the Land and Water Conservation Fund Act (LWCF).

Wetlands:

The National Wetlands Inventory (NWI) maps for the Grand Rivers, Fredonia and Eddyville Quadrangles were reviewed to determine the presence of wetlands within the study corridor and are indicated on Exhibit 3, Sheets 1 through 4.

Wetland impacts for this project could be more than the area threshold determined by the United States Army Corps of Engineers (USACE). If mitigation is necessary, coordination with the USACE will be required. The USACE may require a Nationwide Permit #14 under Section 404 of the Clean Water Act, which requires notifying the USACE and mitigation for any non-tidal waters impacts of 0.1 acres. Impacts greater than 0.1 acre will require an Individual Permit.

A 401 Water Quality Certification permit may be required from the Kentucky Division of Water (KDOW). KDOW recommends field delineation of wetlands prior to final site selection to avoid impact to wetland areas. If wetlands cannot be avoided, any wetland losses must be mitigated. Section 401 of the Clean Water Act does not require mitigation for the loss of ponds. Ponds serve as wildlife habitat as well as surface water retention and replacement should be considered for any losses. Field surveys will be necessary to determine if these ponds exist, and if they have associated wetland edges.

NWI maps are not always accurate and may not indicate all of the wetlands existing in the area. Field surveys will determine if these wetlands as well as others exist in the project area. For possible wetlands impacted by each alternate see the Table below.

Table 3. Possible Wetlands located within the US 641 Project Corridor Study Area.				
Alternates	Wetland Types			
	Forested	Emergent	Riverine	Pond
Alternate 1	6	6		30
Alternate 1A	14	12		60
Alternate 2	10	21		61
Alternate 2A	2	21		44
Alternate 3	14	21		69
Alternate 3A	3	21	2	60
Alternate 4	11	21		40
Alternate 4A	2	20		30

Floodplains:

Flood Insurance Rate Maps (FIRM) provided by the Federal Emergency Management Agency (FEMA), indicate that none of the alternates for the US 641 Corridor Study in Caldwell County encounter any floodplain areas.

According to the Federal Emergency Management Agency (FEMA) Lyon County does not have a Flood Insurance Rate Map.

Flora and Fauna:

The land use within the US 641 Corridor Study area is predominately agricultural, with scattered residential, commercial, open and forested areas. The forested areas consist of Western Mesophytic Forest, which is dominated by deciduous species with some coniferous species throughout. The forest communities show a pronounced influence from the underlying rock formations, which cause them to form a mosaic of vegetation types including oak-hickory, mixed mesophytic and forested swamp. Also in the Mississippian Plateau section some areas were originally tall prairie grasses in open country. This region has extensive karst features such as sinkholes, sinking creeks, springs and caves.

There are a few expanses of forest areas in or near the project corridors that contain both mature and sapling trees with a dense understory in the form of shrub and herbaceous vegetation. These forested habitats support a complex community of wildlife species. Much of the plant and animal life will be common species adapted to the altered landscape. The vegetation would include tree species of Eastern red cedar (*Juniperus virginiana*), yellow-poplar (*Liriodendron tulipifera*), maples (*Aceraceae*), oaks (*Fagaceae*), hickories (*Juglandaceae*) and many other herbaceous species including grasses (*Poaceae*) and sedges (*Cyperaceae*). Most of the existing forest occurs in a mosaic, broken by agriculture, roads, power lines, residential areas, and other forms of development.

This mixture of forested and open field habitats would attract mammals, such as white-tailed deer (*Odocoileus virginianus*), skunks (*Mustelidae*), cottontail rabbit (*Sylvilagus floridanus*), red fox (*Vulpes vulpes*), gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), woodchuck (*Marmota monax*), mink (*Mustela vison*) and raccoon (*Procyon lotor*). The diversity of habitats in this forest type may make this a prime stopover point for migrating Neotropical songbirds and waterfowl. Forest habitats in the project area could support some amphibian species undergoing statewide population decline including the barking treefrog (*Hyla gratiosa*) and bird-voiced treefrog (*Hyla avivoca*). There are also several reptile species that can occur in the project area, such as the eastern box turtle (*Terrapene Carolina*), midland water snake (*Nerodia sipedon pleuralis*), red-eared slider (*Trachemys scripta elegans*), and river cooter (*Pseudemys concinna*). Fallen trees, rocky areas and cliff lines adjacent to crops and pasture land would encourage numerous small mammals, such as squirrels and chipmunks (*Sciuridae*), mice and rats (*Muridae* and *Cricetidae*), as well as songbirds (*Passeriformes*), waterfowl (*Anseriformes*), and raptors (*Falconiformes*). Subterranean habitats will support species of shrew (*Soricidae*) and moles (*Talpidae*).

The corridor study areas also provide some intermittent and perennial streams that are capable of supporting fish and aquatic macroinvertebrate communities. The corridor study areas have habitat types including agricultural fields, pastures, wooded areas, and those closely related to settlements. Places where different habitat types meet, like fencerows and grassy road right-of-ways, are common in the project area, and would encourage species that utilize this edge habitat. Standing snags are an important habitat type and serve as nest sites for birds and waterfowl, dens for mammals, and possibly, hibernacula for bats.

Construction of the proposed US 641 will initially eliminate all flora and fauna in the project's path. Fragmentation of forest tracts can result in a decrease in wildlife populations that depend on forested habitat. Forests conduct numerous natural functions, such as filtering water, absorbing carbon and releasing oxygen, moderating climates, stabilizing slopes, providing wildlife habitat, and supporting biodiversity. Mature forested areas should be avoided since they contain the greatest amount of biodiversity and biomass. Abandoned fields also contain large amounts of diversity due to the transitional nature of these habitats.

The predominant wildlife species that would be expected in the study corridors are species capable of co-existing with humans. Many wildlife habitats have been modified or destroyed as a result of the farming and development activities in the region. There are no areas within the corridors that are pristine or considered critical habitats for threatened or endangered species. It is highly unlikely the project would have sensitive species. Additional fieldwork in subsequent project phases will be necessary to identify the wildlife species present in the corridor, determine if they are threatened or endangered, and assess and quantify the quality of the habitats that exist.

The Kentucky Division of Forestry lists one big tree in Caldwell County, a Carolina Buckthorn (*Rhamnus caroliniana*). It is located approximately 1.75 miles southeast of the southern most terminuses of Alternatives 1 and 1A.

Threatened and Endangered Species

According to U.S. Fish and Wildlife Service (USFWS) records, summer roost habitat and/or winter hibernacula for the federally endangered Indiana bat (*Myotis sodalis*) and gray bat (*Myotis grisescens*) may exist within the proposed project area. The USFWS believes that: (1) forested areas in the vicinity of and on the project area may provide potentially suitable summer roosting and foraging habitat for the Indiana bat and potentially suitable foraging habitat for the gray bat and (2) caves, rockshelters, and abandoned underground mines in the vicinity of and on the project area may provide potentially suitable winter hibernacula habitat for the Indiana bat and/or potentially suitable summer roosting and winter hibernacula habitat for the gray bat.

The Kentucky Department of Fish and Wildlife Resources (KDFWR) information System indicates that four (4) federally threatened and endangered species are known to occur in the Fredonia and Eddyville 7.5 minute USGS quadrangle. KDFWR Information System indicates that the Indiana bat and gray bat are known to occur in the Fredonia 7.5 minute USGS quadrangle and the Bald Eagle and pink mucket are known to occur in the Eddyville quadrangle. KDFWR recommends that in quadrangles in which gray bats are known to occur, any cave entrances that exit within the project area should be surveyed for potential use by gray bats. KDFWR states that because gray bats are cave residents year-round and maternity colonies are generally found in close proximity to rivers, streams and lakes, any caves within the project area could offer potentially valuable habitat to resident gray bats. KDFWR recommends that in quadrangles in which Indiana bats are known to occur, any wooded areas that may be impacted by the proposed project should be examined for potential Indiana bat habitat. Indiana bats are known to form maternity colonies and roost under the bark of trees in both riparian and upland areas. Therefore, any disturbances of trees with exfoliating bark, dead limbs or cavities should be avoided when bat activity may occur.

The Kentucky State Nature Preserves Commission (KSNPC), determined that fifty-five (55) occurrences of plants or animals and no occurrences of monitored exemplary natural communities are reported located within five miles of the project area. Refer to the Table below for the KSNPC species list.

Cultural Historic Resources Evaluation:

1. Historic Sites and Districts:

Historic site data were acquired from the Kentucky Heritage Council Historic Resource Inventory Records. Research and archival documentation was conducted at the Kentucky Historical Society and at the Kentucky Department for Library and Archives. These data were supplemented by a windshield survey of each of the 2000 foot-wide study corridors. Based on initial research, the following historic context for the project area was developed.

Historically settled during the latter part of the 18th century, the project area falls within an area established as Caldwell County in 1809 after it was segregated from Livingston County. At that time Caldwell was one of two western counties claiming lands within federally recognized Chickasaw tribal property. The Jackson Purchase in 1818 established Caldwell County and the county seat of Princeton as a center for settlement of the newly created region [Kleber 1992:151].

The community of Fredonia is located approximately 10 miles north of new Eddyville at the juncture of US 641, and KY 70 and 91. Established in 1836 Fredonia was bypassed by the Ohio Valley Railroad in 1887 when the line passed through Caldwell County. The station stop on the line just ½ mile away was known as Kelsey and for many years both communities had post offices. Finally in 1906 the US Postal Service closed the Fredonia Post Office and applied that name to Kelsey's location [Rennick 1984:232].

Lyon County was taken from the southwest section of Caldwell in 1854 with the community of Eddyville located on the Cumberland River established as the seat of local government. Large deposits of iron ore and other minerals and Eddyville's port on the Cumberland River dictated that the early 19th century growth of Lyon County was based on production of iron and later steel processing.

Both Lyon and Caldwell Counties also have economies based heavily on agriculture and this area was part of Kentucky's dark fired tobacco region. Caldwell and Lyon County took advantage of their location and shipped large quantities of West Kentucky tobacco to New Orleans through their Cumberland River ports at Eddyville and also Dycusburg. In 1860 Caldwell County was 6th in the state in tobacco production.

Locally known as the "Black Patch", during the latter part of the 19th and early part of the 20th century the regional production of this dark leafed tobacco brought great wealth to this area. The Fredonia Valley was an area settled by transplanted farmers from Virginia and North Carolina. Their dark tobacco grew well in the rich west Kentucky soil and by 1900 the Black Patch area had the highest tobacco production in the world [Jarratt 1998]. The later rise in the popularity of the lighter Burley tobacco for cigarette production and the growth of the railroad threatened this monopoly.

In an attempt to exert some control over the production and raise the prices the Dark Tobacco District Planters Protective Association of Kentucky and Tennessee was formed in 1904.

While this association was non-violent, pressures on local farmers led to the establishment of a radical arm of the group known as the “Night Riders”. Led by Dr. David Moss, a local physician with military training, the Night Riders threatened any non-association planter, processor or manufacturer. For two years the Night Riders and their violent tactics figured heavily in the successes of the “Association”. However, as the vigilantism grew more violent, support from the local populace dwindled and the burning of major tobacco warehouses in Fredonia and Princeton heralded the beginning of the end of the Black Patch War [Jaratt: 1998].

During the first quarter of the 20th century the “Association” disbanded and reorganized several times as tobacco prices fluctuated. The agricultural programs established in the 1930’s under Franklin Roosevelt’s New Deal ended this era and succeeded in stabilizing the tobacco market.

Beginning in the 1930’s Congress began investigating the potential for a deeper channel on the Cumberland that would guarantee a shipping channel between Nashville and the Ohio and Mississippi Rivers. In 1956 the money was finally appropriated and The Army Corps of Engineers began negotiations with the communities of Eddyville and Kuttawa for either the purchase or relocation of the communities [Powell 1996:III-2]. There were several options available including incorporating the two towns into one, or the relocation of the entire town of Eddyville. Although smaller by comparison Kuttawa was sited higher above the river than Eddyville, and did not suffer that same problems with flooding along the Cumberland. After several years of indecision, Eddyville accepted an offer of free land from an attorney who owned a large tract near the rural community of Fairview four miles to the north. The economy of both counties is now based heavily on tourism [Powell 1996: III-4].

The Kentucky Heritage Council files listed records for eight properties identified within the study corridors. A field review, conducted in May 2004, revealed that two of these sites were no longer extant. Another of these eight sites was found to be in ruinous condition and could not be evaluated under National Register of Historic Places Criteria as a standing structure. This site, the William J. Stone House, is located between the New Bethel Church and US 641 and is the ruin of one of the most historically important properties in Lyon County. The house was locally known as Stonehurst and constructed during the first part of the 19th century by Caleb Stone, patriarch of the family who emigrated from South Carolina. This property was later owned by his grandson, William J. Stone.

William J. Stone was born in this house in 1841 and he served in the Confederate Army and participated in the Battles of Shiloh, Chickamauga, and Missionary Ridge. He served with General John Hunt Morgan and was promoted to Captain. He was wounded and lost his leg in a skirmish near Cynthiana, Kentucky. After the war he was elected to the Kentucky State Legislature in 1867. He served his district for three separate terms and served as Speaker of the House for two of those terms. He served as chairman on state prisons and brought about many penal reforms. In 1884 he used his influence to establish a penitentiary at Eddyville. That same year he was elected a member of the US Congress from the First Kentucky District where he served five terms [Haman 1961:43]. In 1899 he made a bid for the Democratic nomination for Governor of Kentucky.

During the first part of the 20th century the Kentucky Confederate Pensions Department was established and William J. Stone was appointed Commissioner in Charge. In 1913 the constitutionality of the pension law was challenged and William J. Stone argued the case before the Kentucky Court of Appeals. A small booklet on file at the Kentucky Heritage Council entitled “Capt. W. J. Stone Examiner of Confederate Pensions before the Court of Appeals was published in Frankfort in 1919. He was the first person not a lawyer or party to a suit ever permitted to address the court on any question. This great honor was conferred on Captain Stone by a unanimous vote of the seven Judges of the Court and Consented to by the Attorney General and his assistants, who were opposing counsel in the case.”[Kentucky Heritage Council Survey files].

Because of the ruinous condition of this structure, it cannot be evaluated under National Register Criterion A, B, or C. However given the significance of the owner of this property it should be evaluated under Criterion D for its historic archaeological potential.

In addition to the five previously listed historic standing structures (KHC Records) which were confirmed during field review, an additional six historic properties within the study corridors were identified. Therefore, a total of eleven potentially significant historic sites were identified. Preliminary evaluations of these eleven sites were conducted. These sites are described as follows (see Exhibit 4):

Site 1

Ca-34/Bungalow

Intersection of Ky 91 and Ky 70 southeast of Fredonia in Caldwell County

Alternatives 1, 2A, 3A, & 4A

Description: This one story, frame, asymmetrical bungalow sits in the Y formed by the intersection of two main roads $\frac{3}{4}$ mile east of Fredonia. The house faces south and the lot contains no domestic outbuildings. Constructed circa 1920, the dwelling is a massed plan with a hipped roof on a poured concrete foundation. Separate front and side entrances are located on the south and west elevations. The main entrance on the south façade is given emphasis with double, gable-roofed porches supported by paired wood piers. The entire structure is sheathed in cedar shingles. Window openings appear to be original and are composed of multi-light, double hung, sashes with simple wood surrounds.

There are also associated agricultural buildings including several large dairy barns located east of the main house and these would be included within the historic boundaries.

This Craftsman style bungalow is an unusually well detailed example of this vernacular type. It would meet National Register Criterion C as a type of construction displaying a high degree of historic integrity.

Site 2
Ca-53
Not Extant

Site 3
Tenant house
North side of old Fredonia Princeton Road, north of Fredonia in Caldwell County
Alternatives 1A, 2, 3, & 4

Description: This structure is a one story, frame tenant house that has been covered in stucco. It has a central chimney and a small shed type porch shelters the entrance. The dwelling sits close to the roadway and the site retains no outbuildings or agricultural structures.

This dwelling was probably originally a feature of a larger agricultural complex that was subdivided. As such it is a remnant and is not significant as an individual property. It would not be eligible for the National Register under Criterion A, B, or C.

Fredonia Valley Quarry Road

The following two dwellings are located on property presently owned by the Fredonia Valley Quarry a large industry located east of US 641. During the 1992 survey of Caldwell County four historic sites (Ca-45, 47, 48, & 49) were recorded on this road but only two remain, Ca-47 and 49.

Site 4
Ca-47/Orlando Ross Baker House
Fredonia Valley Quarry Road, east of US 641 in Caldwell County
Alternatives 1, 2A, 3A, & 4A

Description: This property is located on the north side of the Fredonia Valley Quarry Road about .03 miles east of US 641. It is a one story, frame, three bay, single-pile, dwelling on a brick pier foundation. A later kitchen ell with an enclosed porch is located behind the main block. An interior brick chimney is centrally located along the ridge of the gable roof. The window openings are 1/1, double hung sash type and a one-story porch supported by turned wood posts shelters the façade.

The KHRI form documents the interior plan as similar to a saddlebag, or hall/parlor plan. This was documented as the Orlando Ross Baker house built by him around 1910. The Baker family owned quite a large tract of 400 acres of property in the Fredonia Valley in the middle of the 19th century and Baker's station that was established when the Illinois-Central rail line passed through the area during the latter part of the 19th century, was named for them.

In recent years the quarry pit has expanded and is now directly behind this dwelling which is uninhabited and rapidly falling into disrepair.

Although Site 4 may have originally been considered eligible for the National Register under Criterion A for association with a prominent local family, the loss of historic integrity of setting, feeling, and association would preclude the eligibility. Therefore, Ca-47 does not meet Criterion A, B, or C.

Site 5

Ca-49/Silas Dodd House Fredonia Valley Quarry Road, east of US 641 in Caldwell County

Alternatives 1, 2A, 3A, & 4A

Description: This two-story saddlebag dwelling sits on the south side of the Fredonia Valley Quarry Road just opposite Ca-47. The 1992 KHRI form documented this structure as constructed circa 1918 and later owned by Silas Dodd. The building has a gable roof, sits on a fieldstone foundation and is sheathed in asphalt siding. A kitchen ell with a shed addition were added in the 1940s. A one-story porch with exposed rafter tails and square, wood support posts shelters the main entrance.

Used in recent years as an office and storage facility for the quarry the structure is in abandoned, poor condition. With the loss of much of the historic integrity of setting, design, materials, workmanship and feeling this structure does not meet National Register Criterion A, B, or C.

Site 6

Ca-48

Not Extant

Site 7

Ca-40/William Clayborne Rice House

**Gravel lane east of US 641, one mile south of Caldwell County line in Lyon County
Alternatives 2A, 3A, & 4A**

Description: Although this house is physically located in Lyon County due to its historic connections to an important Caldwell County family, it was recorded as part of the Caldwell County survey. This dwelling belonged to William Clayborne Rice born in Todd County, Kentucky in 1843. He served in the Confederate Army during the Civil War and after he returned to West Kentucky he amassed over 1400 acres of land in Lyon and Caldwell Counties. In later years he was owner and partner in W.C. Rice and Co., Tobacco Stemmer Company one of the largest in the region with stemmeries in Fredonia, Kelsey, Butler's Farm, and Craneville. It was reported that a stemmerie was part of this farm (Ca-40). William Clayborne also owned other businesses including dealing in groceries, salt, lime, and cement as well as tobacco the cigars. William Clayborne Rice

died in 1902. Four years later his tobacco factory and stemmery in Fredonia was burned by the “Night Riders” during the “Black Patch War”.

This property contains the oldest dwelling within the project area. The W.C. Rice house is a two story, five bay, brick I-house that dates to the first half of the 19th century. The KHRI form estimated the construction of the main block at 1835 but this could not be confirmed. The structure displays Greek Revival details in the main entrance element consisting of large transom and sidelights with pilasters. With the exception of the lintel over the opening, the windows have been reconfigured with 1/1, double hung sashes. The original brick masonry, (noted on 1992 KHRI as common bond) has been covered in stucco. An oversized two story, gable roofed, portico with round wood columns is a 20th century addition. A late 19th century photo documents the original portico as two stories, just one bay wide with gable roof supported by paired, square piers and a second level porch with baluster. A two-story frame addition with a hipped roof projects from the rear of the main block and a later, one story, frame ell is attached.

No other historic structures are part of this site and boundaries would include the main dwelling only.

The influence of the Rice Family on early Fredonia Valley history is well documented and this property is one of few extant resources associated with them. Although this structure is in poor condition it retains integrity of location, setting feeling and association and would be eligible under Criterion A for association with the Black Patch War and Criterion B for association with the Rice family in Caldwell County.

Site 8

John Clift House

325 Clift Road, north of Oak Grove Road, west of US 641 in Lyon County

Alternatives 2, 3, & 4

Description: According to the owner of this small, early 20th century, cottage it was built by John Clift in 1907 out of lumber that he cut and milled from this farm. It is a one story, five bay, double pile cottage with a poured concrete foundation and hipped roof. An oversized gable roofed porch shelters the main façade and is supported by paired wood piers with cross bracing at the top. The plan of the dwelling is unusual with a recessed entrance bay with three entrances. The main, central entrance has sidelights with paneled aprons beneath. In addition, two secondary entrances on adjacent, angled elevations flank the main one. The interior is intact with the original oak details.

This small parcel was originally part of a larger, older farm complex that originally belonged to the Dykes family. The original main house, located east of this dwelling closer to US 641 burned in the 1960s. The present owner’s father purchased this 250-acre parcel in 1945. Other structures extant on the farm at that time included several outbuildings and barns and a second smaller dwelling.

The Clift house is a well-preserved early 20th century dwelling with an unusual floor plan. It retains a high degree of historic integrity and would be eligible for inclusion in the National Register under Criterion C. The boundary would include the historic setting for the house only.

Site 9/Ly-16

Caleb Stone House

West side of Oak Grove Road, one mile north of Ky 1943 in Lyon County

Alternative 3

Description: This two story, five bay, center passage, dwelling was constructed by Caleb Stone during the middle part of the 19th century. The center bay is reportedly log construction with the remaining sections wood frame. This may be confirmed as the fenestration on the first floor central bay is unevenly spaced. The second floor has only two window openings with original 6/6 lights in the northern opening. The main entrance displays sidelights in a simple surround. Exterior step shouldered, brick end chimneys flank the main block. A one story kitchen ell and enclosed shed addition are circa 1950 additions.

The Stone family was one of the earliest groups of settlers in the Fredonia Valley, the eldest Caleb Stone immigrating to this area from South Carolina in the early 1800s. This farm encompassing over 500 acres reportedly belonged to one of the grandsons of the original settler also named Caleb. Caleb Stone built this house sometime after his marriage in 1851 and in later years he achieved prominence specializing in premium short horn cattle and Poland China hogs. One of his short horn bulls was exhibited at the New Orleans World's Fair in 1885[KHRI: 1986].

The Caleb Stone House is potentially eligible for listing in the National Register under Criterion B for association with the Stone family prominent in early Lyon County history.

Site 10/dwelling

West side of US 641, one mile north of Ky 1943 in Lyon County

Alternatives 2A, 3A, 4, & 4A

Description: This dwelling is an early 20th century, one story, five bay frame structure on a rough-cut, stone block foundation. A projecting roofline gable is centered on the façade and the structure is sheathed in sawn weatherboard. The entrance element contains segmented sidelights with paneled aprons. A one story, flat roofed portico on a cut stone foundation with a trio of square wood piers shelters the entrance. A step shouldered, brick chimney is located on the north gable end of the main block.

This structure is the main dwelling in a small farm complex containing various agricultural related outbuildings.

This early 20th century farming complex is potentially eligible for listing in the National Register under Criterion C. It has retained historic integrity of location, setting, design, materials, workmanship feeling and association. Potential boundaries would include the main dwelling as well as associated agricultural structures on the property.

Site 11/Ly-3/William J. Stone House

South side of New Bethel Church Road, east of US 641 in Lyon County

Ruinous Condition

Alternatives 2, 2A, 3A, 4 & 4A

Described earlier: Should be evaluated as an historic archaeological resource

Site 12/tenant house

End of long lane east of Ky 393, 2 miles north of Ky 93 in Lyon County

Alternatives 3 & 3A

Description: This dwelling is a one story, frame tenant house that is in poor abandoned condition. The window and door openings are deteriorated or missing, leaving the interior open to the weather. Much of the weatherboard has been removed and vines and shrubbery enclose the yard area. A barn that appears to be from the same construction period as the house is the only other structure on the site.

The present property owner related that the structure was built in the 1930s.

This dwelling is abandoned and in extremely poor condition having lost much integrity of design, materials and workmanship. It is not potentially eligible for listing in the National Register under Criterion A, B, or C.

Site 13/saddlebag dwelling

North side of Ky 819, one mile north of Ky 93 in Lyon County

Alternatives 3 & 3A

Description: This one story frame saddlebag dwelling has a four bay façade with double entrance doors. The gable roof is sheathed in standing seam metal and two brick chimneys are located along the ridgeline of the roof. A shed-roofed porch shelters the main façade and a small addition is attached to the west elevation. The foundation material is unknown as it has been covered in new brick. Given the commonality of this type of dwelling it is not potentially eligible under Criterion A, B, or C.

Site 14/dwelling
North side of Ky 93, 1.5 miles north of US 62 in Lyon County
Alternatives 3 & 3A

Description:

This one and one half story, frame cottage, sits on a poured concrete foundation and has a dormered, steeply pitched gable roof with flared eaves. A gable roof, entry bay with flared eaves appears to be original to the structure. A one-story addition on the rear may be a later construction phase.

This minimal traditional cottage appears to date from the 1930 or 1940s. It has retained much historic integrity and is potentially eligible for listing under Criterion C. Boundaries would include the main house and the domestic space only.

A search to identify previously recorded sites at the State Historic Preservation Office, Kentucky Heritage Council, identified eight properties within the specified 2000 foot corridor of project alternatives (Sites 1, 2, 4, 5, 6, 7, 9, and 11). The Principal Investigator was unable to locate sites 2 and 6 and it was assumed that these resources are no longer extant. One site, Site 11, was determined to be in ruinous condition and could not be evaluated as a standing structure. During preliminary field review, six additional historic properties (that met the 50 year age criterion) within the 2000-foot APE for each corridor were identified.

Of the 11 historic sites that were located and documented within the project corridors, six (**sites 1, 7, 8, 9, 10, & 14**) appear to be potentially eligible for inclusion in the National Register of Historic Places (NRHP). Sites 1, 8, 10, and 14 appear to be potentially eligible under National Register Criterion C as dwellings that embody the distinctive characteristics of a type of construction. Given the existing documentation on these sites, potential National Register boundaries would likely be limited to an area containing the main dwelling and any other associated ancillary structures that contribute to the historic setting. Sites 7 & 9 are potentially eligible under Criterion B for their association with persons or families significant in Caldwell and Lyon County history. The National Register boundaries for these sites would likely be potentially larger and contain acreage associated with the farm. These findings are preliminary however, and final determinations of eligibility and fully researched historic boundaries cannot be completed until a report that meets the *Specifications for Conduction of Fieldwork And Preparing Cultural Resource Assessment Reports, ed.2.4* issued by the Kentucky Heritage Council (SHPO), is completed and Section 106 consultation initiated in subsequent project phases.

2. Archaeological Sites and Districts:

Archaeological site data for the study corridors were acquired from the Kentucky Office of State Archaeology. Additional research was conducted at the Kentucky Historical Society and at the Kentucky Department for Library and Archives.

The various routes of reconstructing US 461 in Caldwell and Lyon Counties do not intersect any archaeological sites currently listed in or considered eligible for listing in the National Register of Historic Places. However, one site, 15Ca50, (Mill Bluff Spring) a multi-component site with occupations dating to the Paleoindian through the Woodland Periods has been reported to the Kentucky Office of State Archaeology. Given that this is a large spring in a karst region, it likely has intact archaeological deposits. As an important local natural resource, and potentially significant cultural resource, this area should be avoided, if at all possible.

Only one archaeological survey has been conducted in the project study area. This survey recorded an historic archaeological site, however, where the site was recorded was not within the limits of any project corridor. Three other surveys have been conducted near the southern terminus of the project. These surveys have located one to five sites each. Only one site was considered worthy of further archaeological investigations.

The project corridors appear to bisect a variety of ecological zones that may contain a variety of prehistoric archaeological sites representing, various activities including habitation, hunting, resource procurement and other prehistoric human activities. Of these probable sites, one third would likely need to be evaluated for National Register eligibility. Statistically, it would be expected that approximately ten percent of that number may be considered significant and potentially eligible for listing in the National Register. Historic archaeological sites probably located within the study corridors would be expected to include mineral extraction, iron production related facilities, 19th century pottery manufacturing, stores, and farmsteads. A Phase I archaeological reconnaissance survey will be required for this project in future phases when more specific information on project location and limits become known.

UST/Hazmat Considerations:

A government records search, in addition to preliminary screening/windshield survey of the project area, was performed to locate any current or formerly listed Underground Storage Tank (UST) sites as well as all mappable hazardous waste/hazardous material generator, disposal, and/or transport, sites (see Appendix EO-B). No National Priority List (NPL), i.e. Superfund, sites are listed as occurring in the project area.

Records and field research revealed five (5) UST or former UST sites of potential environmental concern within or near the project corridor. Of these sites, only one is currently active. It is the Lyon County School Bus Garage at 101 Jenkins Road in Eddyville. It was identified in the project area but it is not located adjacent to any study corridor. This site is regulated and currently in compliance with prevailing regulations. It should not pose any problems for the project since the USTs have spill prevention and release detection devices and is outside the study area. The other four (4) sites are former retail gas stations which have likely had their USTs removed but this could not be verified for all sites. These identified sites are located at the southern terminus area of study corridor Alternatives 2 and 2A near the junction of US 641 and US 62. These four sites should be investigated further if they would be impacted by the proposed project.

No other sites of concern, within the limits of the study corridors, were identified.

Residential heating requirements throughout the area are met through the use of electricity, propane, and heating oil. Several propane tanks and a few heating oil tanks were observed throughout the project corridor. The removal of propane and heating oil tanks should be accommodated routinely during the right-of-way acquisition phase.

An Environmental Site Assessment of the project area conducted in accordance with ASTM Practice E 1527 and KYTC Guidance, should be accomplished during future “NEPA” phases of the project to formally confirm UST/HZM findings. Based on currently available information, there are five (5) UST sites, four of which may need Phase II level investigations, that may require additional considerations in future project phases because they could potentially impact decisions on the designated corridor.

Summary of Environmental Overview Data:

Current land use trends in the proposed project area are not expected to experience rapid change as a result of project construction. Current trends are expected to continue and agricultural, residential, small business, and institutional uses would be expected to continue to dominate the study area. Land use effects would be expected to be similar regardless of project location.

Air quality would not be adversely affected and highway noise is not expected to influence project feasibility or alternative location designations.

The USFWS, KDFWR, and KSNPC were contacted for information on protected federal and state listed species that may be affected by the project. Information was also requested from KDFWR and KSNPC concerning critical habitat areas and monitored natural areas in the project corridor. The KDOW was contacted for water quality impacts and groundwater information. The Kentucky Geological Survey (KGS) provided the National Wetland Inventory maps for the project. The NWI mapping, along with data from the United States Department of Agricultural-Natural Resources Conservation Service (USDA-NRCS) was studied to locate possible wetlands. The USACE provided information on any necessary permits. The U. S. Geological Survey (USGS) provided the project’s topographic quadrangles and the geologic quadrangles. FEMA provided the Flood Insurance Rate Maps (FIRM) for Caldwell and Lyon Counties, Kentucky.

Sedimentation and erosion in waterways can be accelerated in highway projects that expose soil, remove vegetation and riparian areas, and require channel changes. The use of heavy equipment to move earth and existing vegetation disrupts natural drainage patterns and exposes large areas of disturbed soil causing erosion. Excessive sedimentation can clog stream channels and contribute to increased flooding. It can also increase water temperatures and cause oxygen demands that can damage or destroy fish and invertebrate populations. Deposition of sediment on the channel bottom also degrades aquatic habitat by filling in substrate cavities, burying demersal eggs, and smothering bottom organisms.

In addition, increases in water turbidity results in further damage to aquatic systems. Increased particulate matter suspended in the water column may drive fish from the polluted area by irritating their gills, concealing forage, and/or destroying vegetation that may be

essential for spawning and cover habitat for particular species. Turbidity also degrades water quality by reducing light penetration, pH and oxygen levels, and the buffering capacity of the water. Degraded water quality may continue far downstream from the point where the erosion occurs.

If land is cleared of trees and vegetation, forage and cover for wildlife will be removed, and habitat fragmentation will be increased. Wildlife travel corridors can be disrupted and home range and migration movements will be affected. The removal of vegetation can result in erosion and loss of nutrients in the topsoil. An increase in non-point source pollution due to chemical runoff from the roadway may occur.

On each of the study corridors, aquatic and terrestrial ecosystems could experience adverse impacts from construction activities associated with stream channelization, culvert and bridge structures, and nonpoint source discharges. Best management practices (BMPs) and erosion and sediment control plans should be employed to prevent adverse impacts to sensitive resources. Mill Bluff Spring, located near the point where study corridor Alternative 1A intersects with study corridor Alternative 2, should be avoided due to its unique character as a natural resource as well as its potential as a significant archaeological site.

Any wetlands that must be filled or paved over will be lost, destroying wetland species, increasing sedimentation due to runoff, increasing floodwaters and impacting groundwater filtration. The loss of wetlands could result in a decrease in diversity within the impacted areas. Potential wetland areas exist within the project study area of all Alternatives. Additional investigations should be conducted to confirm the presence of jurisdictional wetlands and establish practicable avoidance measures as necessary.

A careful survey of the area will determine if there exist any suitable roost sites for bats, such as sandstone and limestone caves, rock houses, cliff lines, snags, and abandoned mines. Field surveys for sensitive species, including freshwater mussels and Bald Eagles, will determine if critical habitats will be impacted by the project. Preliminary “windshield” surveys revealed potential habitat for these endangered species along all study corridors.

Federal and state laws require the Kentucky Transportation Cabinet to obtain the appropriate permits and certifications prior to construction activities that involve the waters of the United States, such as rivers, lakes, streams, or wetlands. Permits that will be necessary if there are stream or jurisdictional wetland impacts are the USACE Nationwide Permit #14 under Section 404 of the Clean Water Act and a 401 Water Quality Certification from the Kentucky Natural Resources Environmental Protection Cabinet Division of Water (KNREPC-DOW). Impacts greater than those for a Nationwide Permit #14 will require an Individual Permit. Wetland encroachment with any placement of fill material will require cooperation with the KDOW and may require a 401 Permit. Under Section 404, a permit is needed to discharge dredged or fill material into any waters of the United States. A 401 certification is needed before conducting any activity that may result in a discharge of pollutant into the waters of the United States. These permits will be necessary prior to any activity that obstructs or alters any of the waters of the United States, including navigable water and wetlands. The potential for 404 and 401 permits is present on all study corridors. Additional evaluations of these issues, along with avoidance, minimization, and mitigation measures will be required in subsequent project phases.

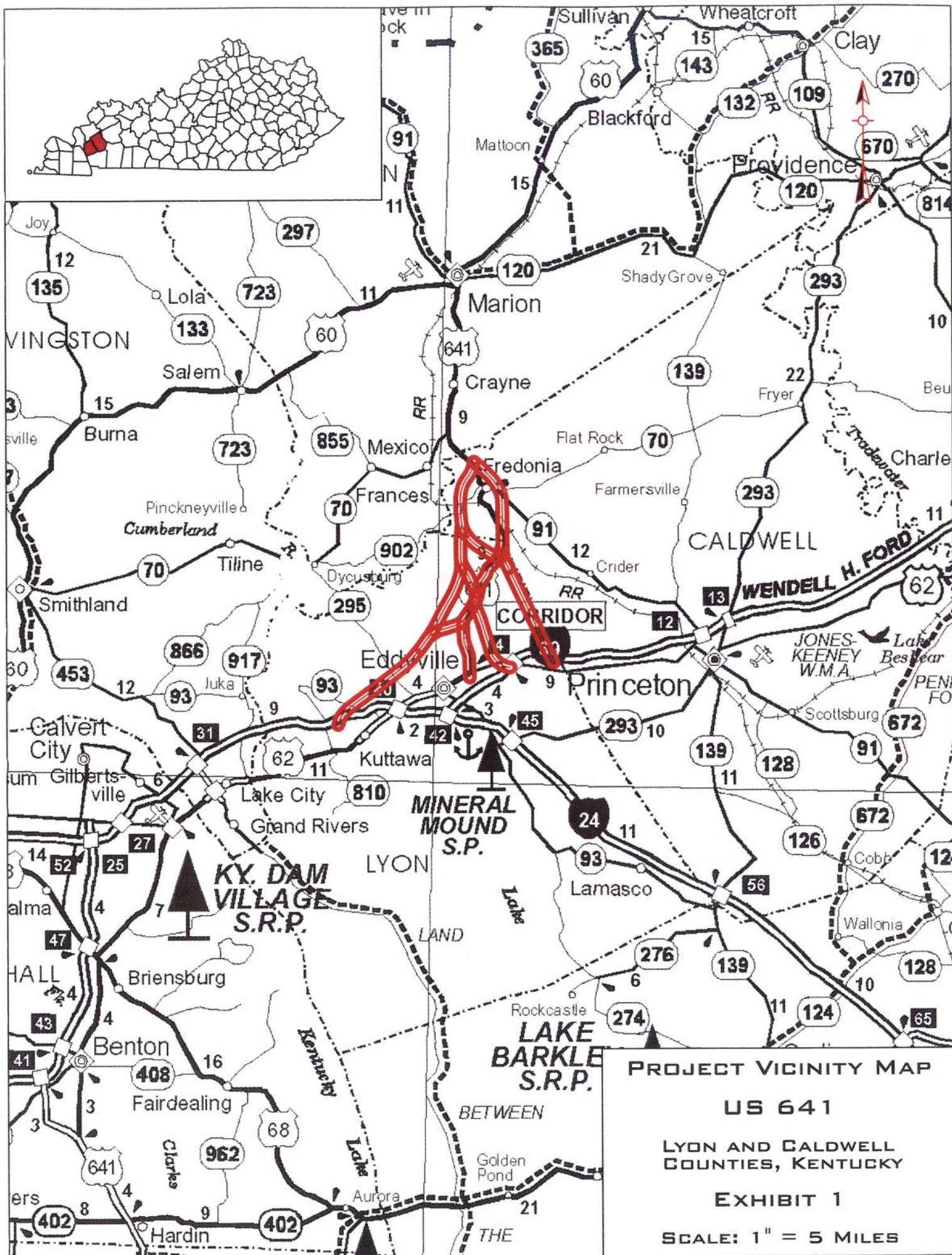
Chapter 151 of the Kentucky Revised Statutes requires prior approval from the KDOW, for the construction, improvement or reconstruction of any structure, deposition of material or other construction across or along any stream that could in any way obstruct flood flows. Floodplain development may also require a permit from the USACE and will require project specific confirmations in future project phases.

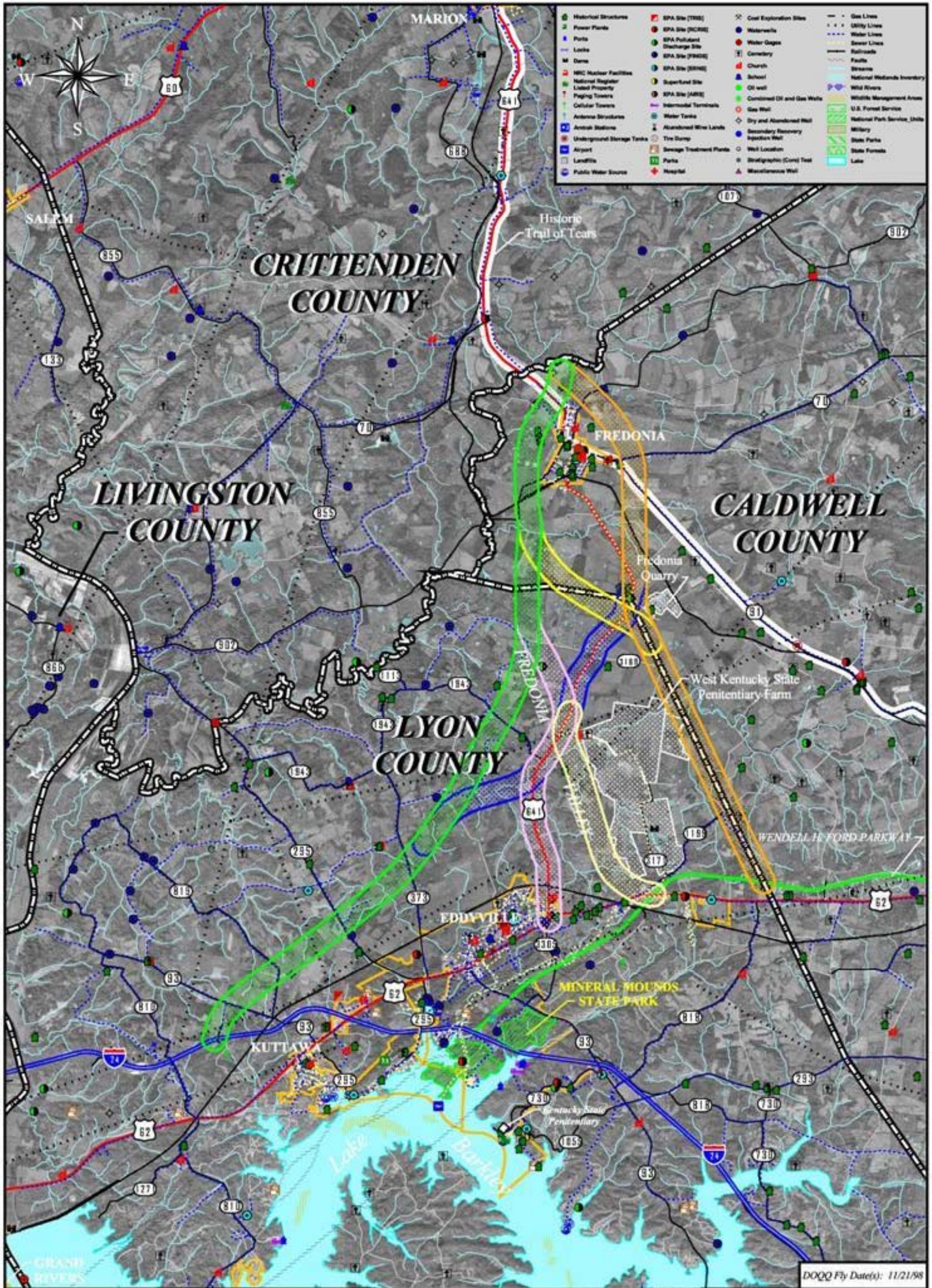
Preliminary examination of archival records and initial field review of study corridors revealed the presence of six sites which appear to be potentially significant as historic resources. Historic sites and historic site potential exists on all study corridors. These sites should be avoided if prudent and feasible to do so. Additional historic resource investigations will be necessary in subsequent project phases to establish historic site boundaries and fulfill regulatory review and coordination requirements.

Four (4) former underground storage tank (UST) sites have been designated for additional investigation as sites of potential environmental concern. These identified sites are primarily located at the southern terminus area of study corridor Alternatives 2 and 2A. If any of these sites would be affected by the proposed project, they should be evaluated for petroleum and toxic substances contamination.

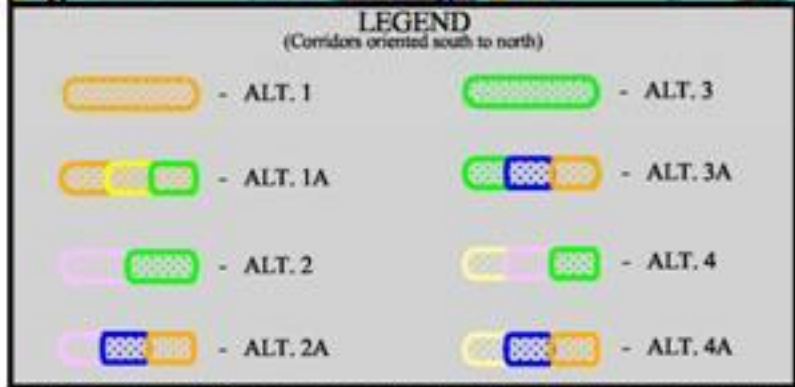
EXHIBITS

- 1. Project Vicinity Map**
- 2. Study Corridors and Project Location Map**
- 3. National Wetlands Inventory Sites Map (4 Sheets)**
- 4. Potential Historic Site Locations Map**





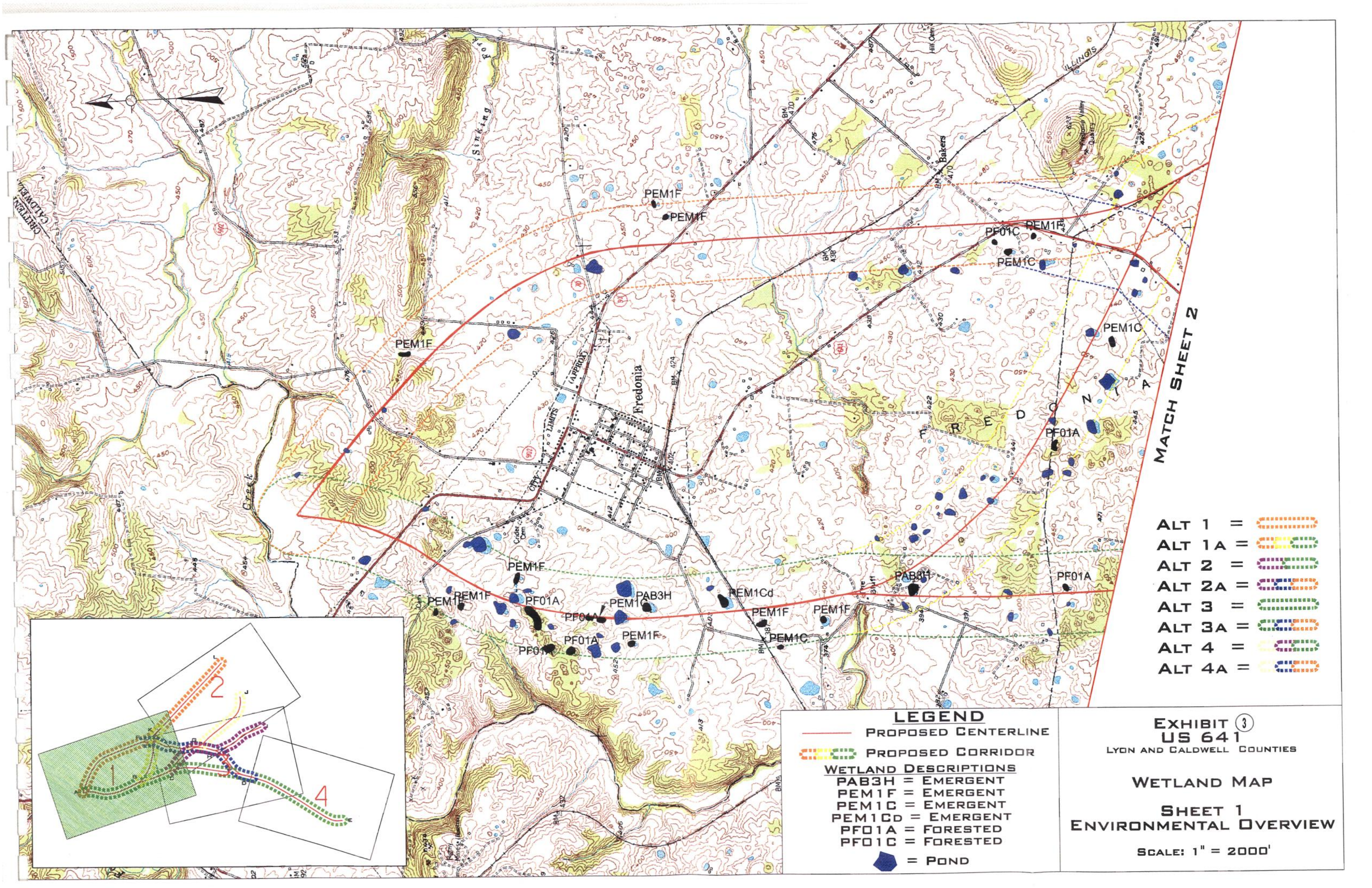
DOQQ Fly Date(s): 11/21/98



Proposed Alternative Corridors
EXHIBIT 2

Lyon and Caldwell Counties

US 641, Fredonia to Eddyville



MATCH SHEET 2

- ALT 1 = [dashed orange line]
- ALT 1A = [dashed orange and yellow line]
- ALT 2 = [dashed purple line]
- ALT 2A = [dashed purple and orange line]
- ALT 3 = [dashed green line]
- ALT 3A = [dashed green and blue line]
- ALT 4 = [dashed blue line]
- ALT 4A = [dashed blue and orange line]

LEGEND

— PROPOSED CENTERLINE

[dashed orange and green line] PROPOSED CORRIDOR

WETLAND DESCRIPTIONS

PAB3H = EMERGENT
PEM1F = EMERGENT
PEM1C = EMERGENT
PEM1Cd = EMERGENT
PF01A = FORESTED
PF01C = FORESTED

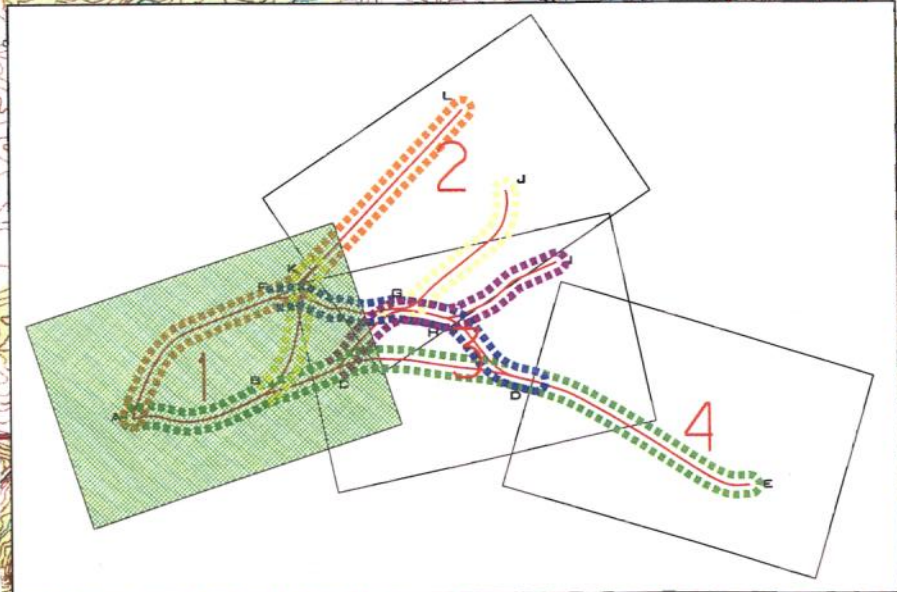
[blue polygon] = POND

EXHIBIT ③
US 641
LYON AND CALDWELL COUNTIES

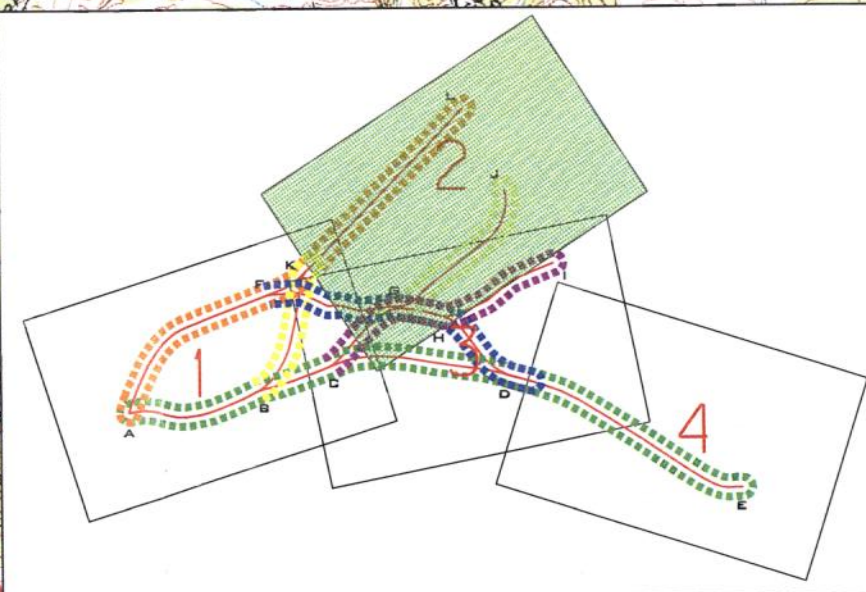
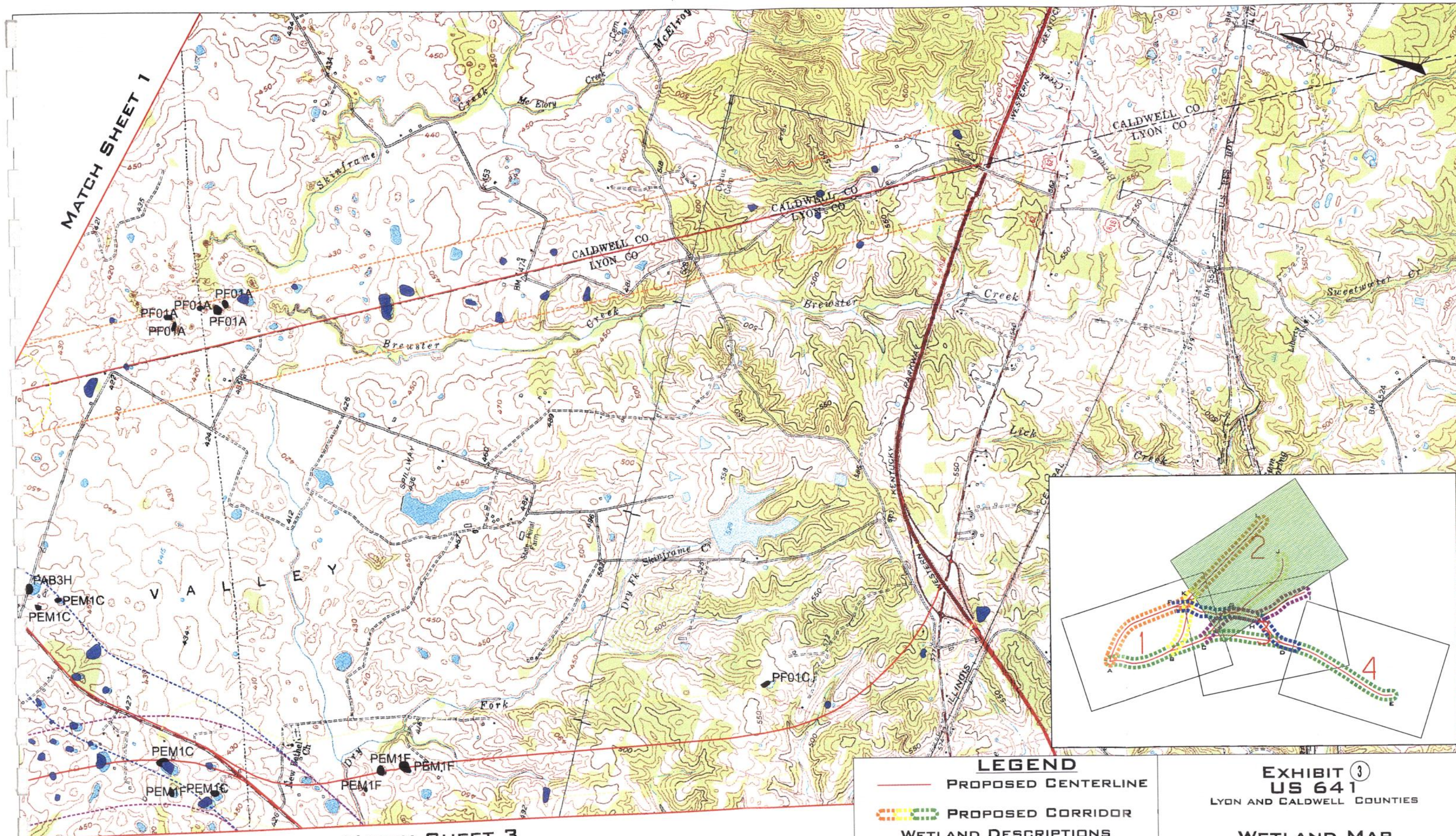
WETLAND MAP

SHEET 1
ENVIRONMENTAL OVERVIEW

SCALE: 1" = 2000'



MATCH SHEET 1



MATCH SHEET 3

ALT 1 =		ALT 3 =	
ALT 1A =		ALT 3A =	
ALT 2 =		ALT 4 =	
ALT 2A =		ALT 4A =	

LEGEND

- PROPOSED CENTERLINE
- PROPOSED CORRIDOR

WETLAND DESCRIPTIONS

- PAB3H = EMERGENT
- PEM1C = EMERGENT
- PEM1F = EMERGENT
- PF01C = FORESTED
- PF01A = FORESTED
- = POND

EXHIBIT 3
US 641

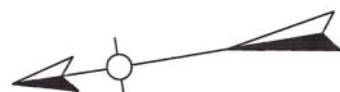
LYON AND CALDWELL COUNTIES

WETLAND MAP

SHEET 2 ENVIRONMENTAL OVERVIEW

SCALE: 1" = 2000'

MATCH SHEET 1



- ALT 1 =
- ALT 1A =
- ALT 2 =
- ALT 2A =
- ALT 3 =
- ALT 3A =
- ALT 4 =
- ALT 4A =

MATCH SHEET 2

MATCH SHEET 4



- LEGEND**
- PROPOSED CENTERLINE
- PROPOSED CORRIDOR

- WETLAND DESCRIPTIONS**
- PEM1FH = EMERGENT
- PEM1F = EMERGENT
- PEM1Cx = EMERGENT
- PF01A = FORESTED
- PF01C = FORESTED
- = POND

EXHIBIT ③
US 641
LYON AND CALDWELL COUNTIES

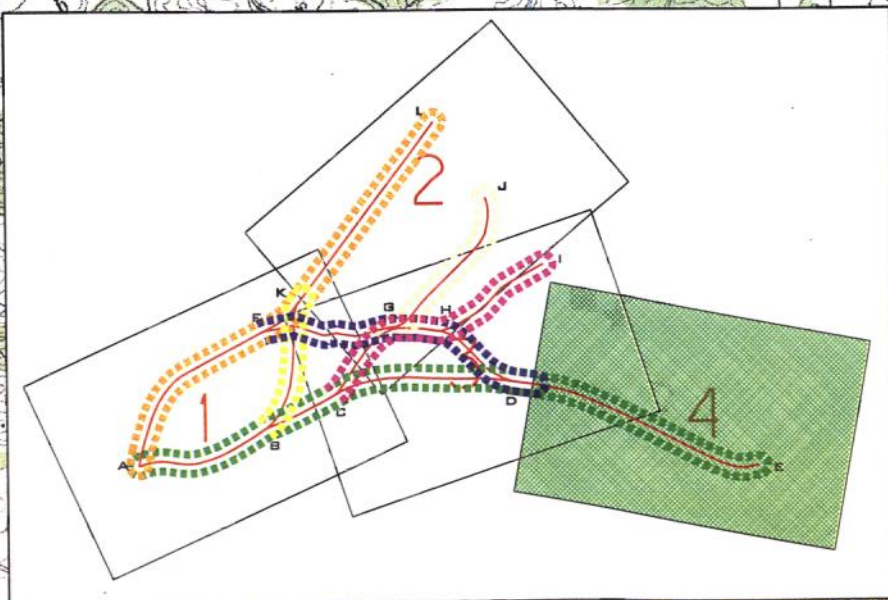
WETLAND MAP

SHEET 3
ENVIRONMENTAL OVERVIEW

SCALE: 1" = 2000'

- ALT 1 =
- ALT 1A =
- ALT 2 =
- ALT 2A =
- ALT 3 =
- ALT 3A =
- ALT 4 =
- ALT 4A =

MATCH SHEET 3



LEGEND

PROPOSED CENTERLINE

PROPOSED CORRIDOR

WETLAND DESCRIPTIONS

PEM1F = EMERGENT
PEM1C = EMERGENT

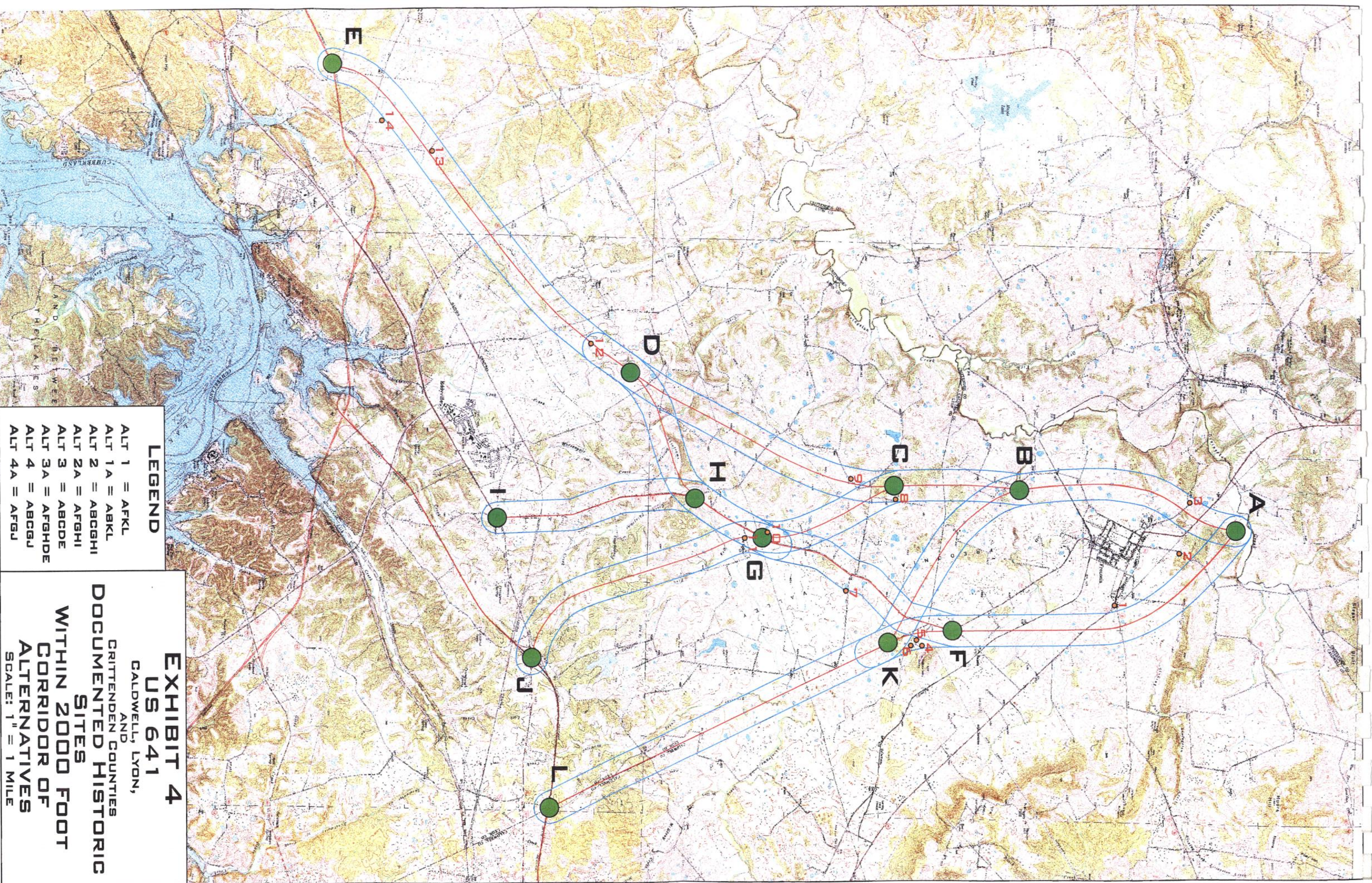
= POND

EXHIBIT ③
US 641
LYON AND CALDWELL COUNTIES

WETLAND MAP

SHEET 4
ENVIRONMENTAL OVERVIEW

SCALE: 1" = 2000'



LEGEND

ALT 1 = AFKL
ALT 1A = ABKL
ALT 2 = ABCGHI
ALT 2A = AFGHI
ALT 3 = ABCDE
ALT 3A = AFGHDE
ALT 4 = ABGJ
ALT 4A = AFGJ

EXHIBIT 4
US 641
AND
CALDWELL, LYON,
CRITTENDEN COUNTIES
DOCUMENTED HISTORIC
SITES
WITHIN 2000 FOOT
CORRIDOR OF
ALTERNATIVES
SCALE: 1" = 1 MILE

APPENDIX EO-A

EARLY COORDINATION RESPONSES AND MEETING MINUTES

A complete copy of the referenced letters appears in Appendix D:

- Department of the Army, Nashville District, Corps of Engineers—November 13, 2003
- United States Department of the Interior, Fish and Wildlife Service—November 25, 2003
- United States Department of Agriculture, Natural Resources Conservation Service—April 21, 2004
- Kentucky State Nature Preserves Commission—May 10, 2004
- Natural Resources and Environmental Protection Cabinet, Department for Natural Resources, Division of Forestry—April 13, 2004
- Environmental and Public Protection Cabinet, Department for Environmental Protection—April 13, 2004
- Cabinet for Workforce Development, Office of the Secretary—July 21, 2003
- Natural Resources and Environmental Protection Cabinet, Department for Environmental Protection, Division for Air Quality—November 6, 2003
- Commonwealth of Kentucky, Kentucky State Police—October 31, 2003
- Department of Corrections, Western Kentucky Correctional Complex—November 12, 2003
- Natural Resources and Environmental Protection Cabinet, Department for Surface Mining Reclamation and Enforcement—November 24, 2003
- Commonwealth of Kentucky, Department of Fish and Wildlife Resources—November 13, 2003
- Crittenden County Economic Development Corp.—November 26, 2003
- University of Kentucky, Kentucky Geological Survey, Research and Graduate Studies—November 3, 2003
- J. R. Gray, State Representative—November 15, 2003
- Daryl Greer, Kentucky Transportation Cabinet—November 19, 2003
- William Broyles, P.E., Geotechnical Engineering Branch Manager, Division of Materials—November 26, 2003

A complete copy of the referenced minutes from each meeting appears in Appendix C:

- Local Officials/Stakeholders Meeting—Eddyville—July 29, 2003
- Local Officials/Stakeholders Meeting—Fredonia—July 29, 2003
- Project Scoping Meeting—Paducah—March 4, 2004
- Project Scoping Meeting—Paducah—June 23, 2003
- Public Involvement Meeting—Fredonia—September 30, 2003
- Public Involvement Meeting—Eddyville—September 29, 2003

APPENDIX EO-B

UST/HAZMAT DATA

Wilson, Jimmy (KYTC)

From: Ballard, Kim (NREPC, DEP)
Sent: Tuesday, November 18, 2003 2:05 PM
To: Wilson, Jimmy (KYTC)
Cc: Hatton, Tony (NREPC, DEP)
Subject: DOT Planning Study-Lyon & Caldwell Counties

On behalf of Tony Hatton, Acting Director:

Division of Waste Management's comments on:
Planning Study
Lyon & Caldwell Counties

Resource Conservation & Local Assistance Branch (contact Tom Heil):
Request the use of Pulverized Glass Aggregate (PGA) in roadbed construction, where feasible.

Superfund Branch (contact Fazi Sherkat):



Superfund Sites By
County For ...

Underground Storage Tank Branch (contact Lori Terry):



caldwell_lyon_dot.xls

Superfund Information System
Sites by County

Commonwealth of Kentucky
NREPC
DWM

County Name LOGAN

Incident Id	Name
17243	ROCKWELL INTERNATIONAL
20212	RUSSELLVILLE 1959
20213	RUSSELLVILLE 2 1960
32959	RUSSELLVILLE BURNING
17244	RUSSELLVILLE CITY DUMP
47906	RUSSELLVILLE NAT. GUARD ARMORY
17370	RUSSELLVILLE SANITATION CO. LANDFILL #071.05
17372	RUSSELLVILLE SANITATION CO. LANDFILL #071.06
17373	RUSSELLVILLE SANITATION COMPANY
20512	SHIFFLETT PROPERTY
110288	STOKER WELL
41905	TARCO
17236	TVA - HOMER L. OWENS SUBSTATION CAPACITORS
58823	VENTRA PLASTICS
110055	VENTRA PLASTICS
60388	VENTRA PLASTICS

Count of sites in LOGAN County 34

County Name LYON

Incident Id	Name
11296	BOYDS LANDING - COAST GUARD AID
51646	CWM RESOURCE MANAGEMENT
20184	EDDYVILLE 1886
11298	HAYES LANDING - COAST GUARD AID
20179	KUTTAWA 1480C
54305	KUTTAWA FIRE/EXPLOSION
20232	KUTTAWA KY 1480
11355	LIVINGSTON - COAST GUARD AID
20533	LYON COUNTY DRUMS
967	MARATHON ASHLAND PETROLEUM
11297	MONEY CLIFF - COAST GUARD AID
11586	PEGGYS

Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
02/16/2001	HAZARDOUS SUBSTANCE POLLUTANT/CONTAMINANT	PCBS	CLOSED	Russellville			STATE SUPERFUND
02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
05/12/1994	POLLUTANT/CONTAMINANT	OPEN BURNING	CLOSED	RUSSELLVILLE	36.84528	-86.88722	STATE SUPERFUND
02/16/2001	PETROLEUM	FACILITY SPILL	ACTIVE	Russellville			STATE SUPERFUND
03/16/1998			CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
02/20/2001			ACTIVE	Russellville			STATE SUPERFUND
02/20/2001			ACTIVE	Russellville			STATE SUPERFUND
02/20/2001			ACTIVE	Russellville			STATE SUPERFUND
01/12/1994	HAZARDOUS SUBSTANCE	ILLEGAL HAZWASTE DISPOSAL	ACTIVE	RUSSELLVILLE	36.8456	-86.8638	STATE SUPERFUND
04/09/2003	HAZARDOUS SUBSTANCE	GROUNDWATER (POTABLE) OTHER	ACTIVE	RUSSELLVILLE	36.825944	-86.91269	STATE SUPERFUND
03/14/1997			CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
02/16/2001			ACTIVE	Russellville			STATE SUPERFUND
09/26/2002		FACILITY SPILL	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
05/15/2003		FACILITY SPILL	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
09/27/2002		FACILITY SPILL	CLOSED	RUSSELLVILLE	36.84528	-86.88722	PETROLEUM
Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
09/26/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	ACTIVE		36.9935	-88.1658	STATE SUPERFUND
02/02/1999	HAZARDOUS SUBSTANCE	LEAKING CARGO	CLOSED	EDDYVILLE			STATE SUPERFUND
02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	EDDYVILLE	37.09444	-88.08028	PETROLEUM
09/26/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	ACTIVE		36.9632	-88.0377	STATE SUPERFUND
02/12/1998		GAS PIPELINES	CLOSED	KUTTAWA	37.05889	-88.1325	PETROLEUM
11/22/1999	HAZARDOUS SUBSTANCE	FIRE/EXPLOSION	CLOSED	KUTTAWA	37.05889	-88.1325	STATE SUPERFUND
02/12/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	KUTTAWA	37.05889	-88.1325	PETROLEUM
09/27/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	ACTIVE	KUTTAWA	37.001	-88.134	STATE SUPERFUND
01/11/1994	POLLUTANT/CONTAMINANT	ABANDONED DRUMS	CLOSED	EDDYVILLE	37.09444	-88.08028	STATE SUPERFUND
12/07/1999	PETROLEUM	FACILITY SPILL	CLOSED	KUTTAWA	37.05889	-88.1325	PETROLEUM
09/26/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	ACTIVE		37.0312	-88.1417	STATE SUPERFUND
10/03/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE	ACTIVE	DRYDEN ESTATES	36.887	-88.1637	STATE SUPERFUND

Superfund Information System
Sites by County

Commonwealth of Kentucky
NREPC
DWM

County Name LYON

Incident Id Name

11299 SHELLY ISLAND - COAST GUARD AID
42223 W. KY CORRECTIONAL COMPLEX
11384 WEST ENTRANCE CANAL - COAST GUARD AID
45839 WKCC

Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
09/26/2000	POLLUTANT/CONTAMINANT	DISPOSAL	ACTIVE		36.9354	-88.014	STATE SUPERFUND
10/15/1996	PETROLEUM	ILLEGAL HAZWASTE DISPOSAL	CLOSED	EDDYVILLE	37.09444	-88.08028	PETROLEUM
10/03/2000	POLLUTANT/CONTAMINANT	FACILITY SPILL	ACTIVE	CROSS ROAD	36.9851	-88.2335	STATE SUPERFUND
09/12/1997	PETROLEUM	ILLEGAL HAZWASTE DISPOSAL	CLOSED	EDDYVILLE	37.09444	-88.08028	PETROLEUM
		OTHER					

Count of sites in LYON County 16

County Name MADISON

Incident Id Name

120723 ADRIAN DOTSON RESIDENCE
41661 ALLEN CO. SPILL
36088 BEREABANDONED DRUMS
17375 BLUE GRASS PLATING CO.
17377 BLUE GRASS PLATING SLUDGE PITS
37880 BOONE VARIETY
20675 BUILDERS CONCRETE BLOCK
2024 CALDWELL DISCOUNT GROCERY
17391 CHENAVULT RECTIFIERS
34927 COLUMBIA GULF - BYBEE / COLUMBIA GAS AND TRANSMIS
34928 COLUMBIA GULF - DELTA KINGSTON / COLUMBIA GAS AND
34961 COLUMBIA GULF - TRANEX / COLUMBIA GAS AND TRANSMIS
47439 COX LUXON REALTY
47303 COX'S AUTO
17379 DREAMING CREEK SITE
14621 DRUM NEAR BLUE GRASS ARMY DEPOT
41026 GOODYEAR STORE #6260
41654 I-75 EXIT 90 / NORTH STAR TRANSPORT, WILLIAM SCANN
48058 K I USA
36133 KARATE CLUB DRUM
17381 KELLER INDUSTRIES - BEREABANT
31616 KOKOKU RUBBER
33185 KY LOCK (#10) AND DAM SITES / U. S. ARMY CORPS OF ENGINEERS
17383 MADISON SANITARY LANDFILL

Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
10/21/2003		UST (EXEMPT)	CLOSED	BEREA	37.572667	-84.28297	PETROLEUM
08/12/1996	PETROLEUM	FACILITY SPILL	CLOSED	BEREA	37.56861	-84.29639	PETROLEUM
03/20/1995	OTHER	ABANDONED DRUMS	CLOSED	BEREA	37.56861	-84.29639	STATE SUPERFUND
02/20/2001			ACTIVE	Richmond			STATE SUPERFUND
02/20/2001	PETROLEUM	FACILITY SPILL	ACTIVE	Richmond			STATE SUPERFUND
10/26/1995	PETROLEUM	UST (EXEMPT)	CLOSED	RICHMOND	37.74778	-84.29472	PETROLEUM
01/11/1994	PETROLEUM		CLOSED	RICHMOND	37.74778	-84.29472	STATE SUPERFUND
01/12/2000			CLOSED	RICHMOND	37.754444	-84.28	PETROLEUM
02/20/2001			ACTIVE	Richmond			STATE SUPERFUND
11/10/1994		GAS PIPELINES	ACTIVE	BYBEE	37.73306	-84.12472	STATE SUPERFUND
11/10/1994		GAS PIPELINES	ACTIVE	KINGSTON			STATE SUPERFUND
11/10/1994		GAS PIPELINES	ACTIVE	RICHMOND			STATE SUPERFUND
02/12/1998	PETROLEUM	FACILITY SPILL	CLOSED	RICHMOND	37.74778	-84.29472	PETROLEUM
01/27/1998	PETROLEUM	OIL SHEEN	CLOSED	RICHMOND	37.74778	-84.29472	PETROLEUM
02/20/2001			ACTIVE	Richmond			STATE SUPERFUND
12/21/2000		ABANDONED DRUMS	CLOSED	Richmond	37.74778	-84.29472	STATE SUPERFUND
06/21/1995	PETROLEUM	UST (EXEMPT)	CLOSED	RICHMOND	37.74778	-84.29472	PETROLEUM
08/11/1996		TRANSPORTATION ACCIDENT	ACTIVE	RICHMOND			STATE SUPERFUND
04/06/1999	PETROLEUM	MULTIPLE INCIDENTS	ACTIVE	BEREA	37.60417	-84.31083	PETROLEUM
03/22/1995	POLLUTANT/CONTAMINANT	ABANDONED DRUMS	CLOSED	RICHMOND	37.74778	-84.29472	STATE SUPERFUND
02/20/2001			ACTIVE	Berea			STATE SUPERFUND
05/13/1994	HAZARDOUS SUBSTANCE	OPEN DUMPING	CLOSED	RICHMOND	37.74778	-84.29472	STATE SUPERFUND
04/15/1994	HAZARDOUS SUBSTANCE	SOIL CONTAMINATION	ACTIVE	RICHMOND	37.89452	-84.26529	STATE SUPERFUND
02/20/2001			ACTIVE	Penola			STATE SUPERFUND

Superfund Information System
Sites by County

Commonwealth of Kentucky
NREPC
DWM

County Name BUTLER

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
33675	KANE INDUSTRIES	06/13/1994	PETROLEUM	UST (EXEMPT)	CLOSED	MORGANTOWN	37.22556	-86.68361	PETROLEUM
34716	KANE INDUSTRIES	10/13/1994	PETROLEUM	UST (EXEMPT)	CLOSED	MAORGANTOWN			STATE SUPERFUND
43061	KELLWOOD APPAREL GROUP	01/08/1997	PETROLEUM	OTHER	CLOSED	MORGANTOWN	37.22556	-86.68361	STATE SUPERFUND
54011	MASON CEMETERY ROAD DRUMS	10/04/1999	HAZARDOUS SUBSTANCE	ABANDONED DRUMS	CLOSED	BUTLER CO	37.11642	-86.71849	STATE SUPERFUND
48747	MORGANTOWN DRUM	05/21/1998			CLOSED	MORGANTOWN	37.23383	-86.70657	STATE SUPERFUND

Count of sites in BUTLERCounty 8

County Name CALDWELL

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
15116	CHEVRON DISTRIBUTION F.M. WILCOX, INC.	01/04/2001			ACTIVE	Princeton			STATE SUPERFUND
15123	CRIDER AND ROGERS LANDFILL	01/04/2001			CLOSED	Princeton			STATE SUPERFUND
35356	CRIDER AND ROGERS LANDFILL	12/29/1994	HAZARDOUS SUBSTANCE	LANDFILL	ACTIVE	PRINCETON	37.15556	-87.86667	FEDERAL SUPERFUND
34318	FISH N MORE RESTAURANT	09/06/1994	PETROLEUM	UST (EXEMPT)	CLOSED	PRINCETON	37.10917	-87.88194	STATE SUPERFUND
50301	GEORGE COLEMAN PROPERTY	09/25/1998	OTHER	OPEN DUMPING	CLOSED	PRINCETON	37.10917	-87.88194	STATE SUPERFUND
15121	I.C.G. RAILROAD DERAILMENT	01/04/2001			ACTIVE	Clackson			STATE SUPERFUND
15122	ITT GRINNELL WELDING PRODUCTS DIVISION	01/04/2001			ACTIVE	Princeton			STATE SUPERFUND
20190	MARION 1940	02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	MARION			PETROLEUM
20191	MARION 1940C	02/13/1998	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	MARION			PETROLEUM
42981	MID-STATE AUTOMOTIVE	01/02/1997	PETROLEUM	FACILITY SPILL	CLOSED	PRINCETON	37.10917	-87.88194	PETROLEUM
60848	PRINCETON HOSIERY MILL	10/05/2001			CLOSED	PRINCETON	37.110361	-87.88986	STATE SUPERFUND
37016	PRINCETON PCB CAPACITORS	06/13/1995	HAZARDOUS SUBSTANCE	ABANDONED DRUMS	CLOSED	PRINCETON	37.10917	-87.88194	STATE SUPERFUND
39902	THOMPSON STEEL PIPE COMPANY	03/22/1996	PETROLEUM	ABANDONED DRUMS	CLOSED	PRINCETON	37.10917	-87.88194	PETROLEUM
				FACILITY SPILL	CLOSED	PRINCETON			

Count of sites in CALDWELLCounty 13

County Name CALLOWAY

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
11320	BLOOD RIVER - COAST GUARD AID	09/26/2000	POLLUTANT/CONTAMINANT	ILLEGAL HAZWASTE DISPOSAL	CLOSED		36.6392	-88.05719	STATE SUPERFUND
15125	CALLOWAY DUMP	01/04/2001			ACTIVE	Murray			STATE SUPERFUND
50733	DIXIELAND CENTER / HAVERSTOCK, BELL & PITMAN	10/13/1998	HAZARDOUS SUBSTANCE	FACILITY SPILL	ACTIVE	MURRAY	36.618333	-88.31667	STATE SUPERFUND
47968	ECOLOGY SYSTEMS LANDFILL	03/17/1998	HAZARDOUS SUBSTANCE	LANDFILL	ACTIVE	MURRAY	36.60222	-88.19333	STATE SUPERFUND
15126	ECOLOGY SYSTEMS, INC.	01/04/2001			CLOSED	Murray			STATE SUPERFUND
47414	GEORGE NICHOLS DRUMS	02/04/1998	HAZARDOUS SUBSTANCE	ABANDONED DRUMS	CLOSED	MURRAY	36.61028	-88.31472	STATE SUPERFUND
8023	KENLAKE FOODS	06/23/2000	PETROLEUM	OTHER	ACTIVE	MURRAY	36.61028	-88.31472	PETROLEUM
45373	MATTEL	08/22/1997			CLOSED	MURRAY	36.61028	-88.31472	PETROLEUM
48008	MATTEL	03/23/1998	OTHER	FACILITY SPILL	CLOSED	MURRAY	36.61028	-88.31472	PETROLEUM

COUNTY_CODE	COUNTY_NAME	SITE_SEQ_ID	SITE_NAME	NVL(
17	CALDWELL	34017	FREDONIA VALLEY QUARRIES	RT 2
17	CALDWELL	56017	TRICE HUGHES CHEVROLET INC	HWY
17	CALDWELL	202017	ONE STOP 10	S JEI
17	CALDWELL	203017	PARKWAY BP	312 I
17	CALDWELL	757017	CALDWELL COUNTY/MAINT GARAGE	WES
17	CALDWELL	915017	SOUTH CENTRAL PRTNKYES REAL ES	405 I
17	CALDWELL	1002017	C & K AUTO REPAIR	970 I
17	CALDWELL	1003017	TMART 536 (MINI MART #2227)	303 I
17	CALDWELL	1004017	HEATONS CITGO (PRINCETON FAST LUBE) (ASHLAND)	495 I
17	CALDWELL	1005017	CITY OF PRINCETON	310 I
17	CALDWELL	1008017	VALLEY INN RESTAURANT	CAS
17	CALDWELL	1009017	CROWTOWN STORE	800 I
17	CALDWELL	1010017	BUILD RITE LUMBER	HWY
17	CALDWELL	1011017	HOLEMAN PROPERTY	1366
17	CALDWELL	1160017	PRINCETON WASTEWATER TREATMENT P	2540
17	CALDWELL	1454017	S R 139	UNK
17	CALDWELL	1521017	U C MILK CO INC	HOP
17	CALDWELL	1576017	FREDONIA FOOD & MORE	101 I
17	CALDWELL	1670017	J DOUGLAS OSTING DBA FARMERS D	116 I
17	CALDWELL	1734017	JUNIOR RAY BEAVERS	300 I
17	CALDWELL	1770017	CRUCES CROSSROADS	7660
17	CALDWELL	1807017	PRINCETON ELECTRIC PLANT BOARD	304 I
17	CALDWELL	2103017	CMI PRINCETON INC	HWY
17	CALDWELL	2150017	THOMAS CAYCE	ROU
17	CALDWELL	2339017	BIG O MARKET (ONE STOP #8)	501 I
17	CALDWELL	2380017	FARMERSVILLE COUNTRY STORE	400C
17	CALDWELL	2444017	DON HANCOCK	HWY
17	CALDWELL	2728017	IDEAL #15 (ROCKET OIL)	100C
17	CALDWELL	2797017	FREDONIA BULK PLT (ABM 251 0121)	106 I
17	CALDWELL	3129017	FREDONIA ASHLAND	HWY
17	CALDWELL	3154017	CHAMBERS MARKET	1137
17	CALDWELL	3306017	THE KENTUCKY STONE COMPANY	HWY
17	CALDWELL	3324017	KILGORE SERVICE STATION	129
17	CALDWELL	3370017	FARMERS CROP SERVICE	HWY
17	CALDWELL	3396017	# 1290116	DEP
17	CALDWELL	3544017	MAX ARNOLD & SONS LLC DBA MAXFUEL #27	490

17 CALDWELL	3721017 WEST KENTUCKY SUBSTATION	HWY 9
17 CALDWELL	3915017 U-RIDE INC	HWY 9
17 CALDWELL	5114017 CALDWELL CO SCHOOLS/BUS GARAGE	119 YC
17 CALDWELL	5115017 FREDONIA FLEA MARKET (ELEM SCHL)	BOX 17
17 CALDWELL	5390017 CALDWELL CO FISCAL CT	115 E N
17 CALDWELL	5484017 FORD LEASING DEVELOPMENT COMPANY	HWY 6
17 CALDWELL	5517017 MAX FUEL #10	400 HW
17 CALDWELL	5774017 JERRYS MARKET (MACS MARKET)	911 HC
17 CALDWELL	5807017 MAXFUEL #28	126 E C
17 CALDWELL	6724017 ROBERT BROADBENT FARM	HWY 1
17 CALDWELL	6725017 ARVIN AFTERMARKET PRODUCTS DIV	HWY 6
17 CALDWELL	6739017 PRINCETON B331010	US 62
17 CALDWELL	6797017 C A WOODALL	HWY 9
17 CALDWELL	6826017 BILL LEWIS SERVICE STATION	700 W/
17 CALDWELL	6827017 LARUES PIT STOP	21212
17 CALDWELL	6837017 SOUTH SIDE PETRO	326 S.
17 CALDWELL	7212017 AKRIDGE FARM SUPPLY	55 WY.
17 CALDWELL	7214017 ABM 251 003 0597	KY HW
17 CALDWELL	8521017 FLETCHER PROPERTY (KY DELIVERY	314 R/
17 CALDWELL	8524017 BARNES STORE INC	RT 5 9
17 CALDWELL	8536017 BAYS COUNTRY STORE	375 St
17 CALDWELL	8539017 HOPSONS STORE	RT 3 F
17 CALDWELL	8544017 SAMS SHELL & CARWASH (MOGAS)	309 LI
17 CALDWELL	8545017 MAX FUEL #14 (OLIVERS CHEVRON)	206 M.
17 CALDWELL	8546017 RAYS CHEVRON	301 M.
17 CALDWELL	8550017 D & L PROPERTIES	309 M.
17 CALDWELL	8551017 HANCOCKS MOR FOR LESS FOOD STORE	RT 2
17 CALDWELL	8821017 62 MARKET	RTE 3
17 CALDWELL	9658017 PRINCETON LAWN & GARDEN SUPPLY	201 W
17 CALDWELL	9804017 THOMAS GROC & STATION	RT 4
17 CALDWELL	9982017 THE PANTRY #351	328 S
17 CALDWELL	20140890 THE SADDLE SHOP	216 M
17 CALDWELL	205072 EDDY CREEK MARINA	7612 S
72 LYON	206072 EDDYVILLE BP	105 M
72 LYON	259072 BUZZARD ROCK RESORT & MARINA	985 B/
72 LYON	286072 WESTERN KY CORRECTIONAL COMPLEX	374 N
72 LYON	288072 KENTUCKY STATE PENITENTIARY	377 W

72 LYON	414072 RAMEY CAMPGROUND	R 1 H
72 LYON	670072 LYON CO BOARD OF EDUCATION	FAIR\
72 LYON	731072 LYON COUNTY/MAINT GARAGE	KY 37
72 LYON	1001072 KUTTAWA \$4540	28 D\
72 LYON	1002072 NU-KRO	638 T
72 LYON	1003072 WENDYS BP	29 D\
72 LYON	1004072 LYON CO AMBULANCE SERVICE	505 F
72 LYON	1005072 COUNTRY VILLAGE FLEA MARKET	5680
72 LYON	1006072 CUMMINGS GROCERY	8970
72 LYON	1533072 HEAD & LISA'S TACKLE BOX	5045
72 LYON	1931072 KUTTAWA HARBOR INC	1709
72 LYON	1961072 OVERLOOK MARKET	ROU
72 LYON	1983072 SARATOGA BAIT & TACKLE	1860
72 LYON	2479072 KUTTAWA MARKET	PO B
72 LYON	2973072 HUCKS TRAVEL CENTER (SWIFTY)	RTE :
72 LYON	3325072 EDDYVILLE TIRE	FAIR
72 LYON	3513072 MAXFUEL #22 (DRURY'S SHORT STOP)	174 S
72 LYON	3764072 FORMER DAVES OIL	2975
72 LYON	3950072 EDDYVILLE FIVESTAR #3300	620 F
72 LYON	4057072 YATES BUILDING	HWY
72 LYON	4417072 PHILLIPS 66 CO 021481	US 6
72 LYON	5137072 LYON COUNTY SCHOOL BUS GARAGE	101 J
72 LYON	5246072 SOUTHERN EXCAVATING (DUNCANS)	1983
72 LYON	5678072 SHAWNEE PLASTICS INC	LAKE
72 LYON	5736072 CJ'S (T J'S JUNCTION)	8874
72 LYON	5813072 KUTTAWA FIVESTAR #539	US 6
72 LYON	5970072 BLUEGRASS OIL CO/EDDYVILLE GULF	HWY
72 LYON	6831072 EDDYVILLE CITGO	666 f
72 LYON	7213072 FREDONIA KY BULK PLANT 251	FAIR
72 LYON	7215072 TOM & BARBS GROCERY & BAIT	KY R
72 LYON	8526072 TARRYON RESORT	ROU
72 LYON	8534072 GRADY WHITE	RT B
72 LYON	8548072 BILL & BILLY INC	HWY
72 LYON	8549072 RAYMOND GUESS	HWY
72 LYON	8717072 CLYDE S TILLER	ROU
72 LYON	10000505 COUNTY GARAGE	1677

FirstSearch Technology Corporation

Environmental FirstSearchTM Report

TARGET PROPERTY:

US 641 - REPORT 1 OF 6

EDDYVILLE KY 42038

Job Number: 03-415

PREPARED FOR:

Palmer Engineering

201 South Orange Avenue, Suite 890

Orlando, Florida 32801

www.palmernet.com

04-13-04

Environmental
FIRSTSEARCH



Tel: (407) 265-8900

Fax: (407) 265-8904

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**Environmental FirstSearch
Federal Databases and Sources**

ASTM Databases:

CERCLIS: Comprehensive Environmental Response Compensation and Liability Information System. The EPA's database of current and potential Superfund sites currently or previously under investigation. Source: Environmental Protection Agency.

Updated quarterly.

CERCLIS-NFRAP (Archive): Comprehensive Environmental Response Compensation and Liability Information System Archived Sites. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Updated quarterly.

ERNS: Emergency Response Notification System. The EPA's database of emergency response actions. Source: Environmental Protection Agency. Data since January, 2001, has been received from the National Response Center as the EPA no longer maintains this data.

Updated quarterly.

FINDS: The Facility Index System. The EPA's Index of identification numbers associated with a property or facility which the EPA has investigated or has been made aware of in conjunction with various regulatory programs. Each record indicates the EPA office that may have files on the site or facility. Source: Environmental Protection Agency.

Updated semi-annually.

NPL: National Priority List. The EPA's list of confirmed or proposed Superfund sites. Source: Environmental Protection Agency.

Updated quarterly.

RCRIS: Resource Conservation and Recovery Information System. The EPA's database of registered hazardous waste generators and treatment, storage and disposal facilities. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List). Source: Environmental Protection Agency.

RCRA TSD: Resource Conservation and Recovery Information System Treatment, Storage, and Disposal Facilities. The EPA's database of RCRIS sites which treat, store, dispose, or incinerate hazardous waste. This information is also reported in the standard RCRIS detailed data.

ASTM Databases (continued):

RCRA COR: Resource Conservation and Recovery Information System Corrective Action Sites. The EPA's database of RCRIS sites with reported corrective action. This information is also reported in the standard RCRIS detailed data.

RCRA GEN: Resource Conservation and Recovery Information System Large and Small Quantity Generators. The EPA's database of RCRIS sites that create more than 100kg of hazardous waste per month or meet other RCRA requirements. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List).

RCRA NLR: Resource Conservation and Recovery Information System sites No Longer Regulated. The EPA's database of RCRIS sites that create less than 100kg of hazardous waste per month or do not meet other RCRA requirements.

All RCRA databases are Updated quarterly

Environmental FirstSearch Federal Databases and Sources

Non-ASTM Databases:

HMIRS: Hazardous Materials Incident Response System. This database contains information from the US Department of Transportation regarding materials, packaging, and a description of events for tracked incidents.

Updated quarterly.

NCDB: National Compliance Database. The National Compliance Data Base System (NCDB) tracks regional compliance and enforcement activity and manages the Pesticides and Toxic Substances Compliance and Enforcement program at a national level. The system tracks all compliance monitoring and enforcement activities from the time an inspector conducts and inspection until the time the inspector closes or the case settles the enforcement action. NCDB is the national repository of the 10 regional and Headquarters FIFRA/TSCA Tracking System (FTTS). Data collected in the regional FTTS is transferred to NCDB to support the need for monitoring national performance of regional programs.

Updated quarterly

NPDES: National Pollution Discharge Elimination System. The EPA's database of all permitted facilities receiving and discharging effluents. Source: Environmental Protection Agency.

Updated semi-annually.

NRDB: National Radon Database. The NRDB was created by the EPA to distribute information regarding the EPA/State Residential Radon Surveys and the National Residential Radon Survey. The data is presented by zipcode in Environmental FirstSearch Reports. Source: National Technical Information Service (NTIS)

Updated Periodically

Nuclear: The Nuclear Regulatory Commission's (NRC) list of permitted nuclear facilities.

Updated Periodically

PADS: PCB Activity Database System

The EPA's database PCB handlers (generators, transporters, storers and/or disposers) that are required to notify the EPA, the rules being similar to RCRA. This database indicates the type of handler and registration number. Also included is the PCB Transformer Registration Database.

Updated semi-annually.

Receptors: 1995 TIGER census listing of schools and hospitals that may house individuals deemed sensitive to environmental discharges due to their fragile immune systems.

Updated Periodically

Non-ASTM Databases (continued):

RELEASES: Air and Surface Water Releases. A subset of the EPA's ERNS database which have impacted only air or surface water.

Updated semi-annually.

Soils: This database includes the State Soil Geographic (STATSGO) data for the conterminous United States. It contains information regarding soil characteristics such as water capacity, percent clay, organic material, permeability, thickness of layers, hydrological characteristics, quality of drainage, surface, slope, liquid limit, and the annual frequency of flooding. Source: United States Geographical Survey (USGS).

Updated quarterly

TRIS: Toxic Release Inventory System. The EPA's database of all facilities that have had or may be prone to toxic material releases. Source: Environmental Protection Agency.

Updated semi-annually.

**Environmental FirstSearch
Kentucky Databases and Sources**

1. LANDFILLS: The Kentucky Department for Environmental Protection listing of contained and construction/demolition debris landfills as maintained by the Division of Waste Management Solid Waste Program.

Updated Yearly

2. STATE SITES: The Kentucky Department for Environmental Protection State Lead List as maintained by the Division of Waste Management Superfund Branch.

Updated Quarterly

3. UST: Underground Storage Tanks. The Kentucky Department for Environmental Protection listing of all underground storage tanks as maintained by the Underground Storage Tanks Branch.

Updated Quarterly

Environmental FirstSearch
Street Name Report for Streets within .25 Mile(s) of Target Property

TARGET SITE: US 641 - REPORT 1 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 (GREEN)

Street Name	Dist/Dir	Street Name	Dist/Dir
Bennett Rd	0.00 --		
Brasher Rd	0.00 --		
Clift Rd	0.15 NE		
Coleman Doles Rd	0.04 NE		
Dycusburg Rd	0.00 --		
Free Betty Ford Rd	0.06 NW		
Hillside Dr	0.17 SE		
I-24	0.05 SE		
J C Garner Rd	0.01 SE		
Jones Rd	0.25 SE		
Oak Grove Rd	0.00 --		
Old Mexico Rd	0.00 --		
Poplar Creek Rd	0.00 --		
Popular Creek	0.05 SE		
Scott Rd	0.13 NW		
State Highway 1943	0.00 --		
State Highway 295	0.00 --		
State Highway 373	0.00 --		
State Highway 70	0.00 --		
State Highway 819	0.00 --		
State Highway 93	0.00 --		
W Dycus Ave	0.19 NE		
WEST Dycus Ave	0.19 NE		

Environmental FirstSearch Search Summary Report

Target Site: US 641 - REPORT 1 OF 6
EDDYVILLE KY 42038

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	02-09-04	0.50	0	0	0	0	-	0	0
CERCLIS	Y	02-09-04	0.50	0	0	0	0	-	0	0
NFRAP	Y	02-09-04	0.50	0	0	0	0	-	1	1
RCRA TSD	Y	02-09-04	0.50	0	0	0	0	-	0	0
RCRA COR	Y	02-09-04	0.50	0	0	0	0	-	0	0
RCRA GEN	Y	02-09-04	0.50	0	0	0	0	-	3	3
RCRA NLR	N	02-09-04	0.25	-	-	-	-	-	-	-
ERNS	Y	12-31-03	0.50	0	0	0	0	-	9	9
NPDES	N	01-26-04	0.25	-	-	-	-	-	-	-
FINDS	N	05-29-03	0.25	-	-	-	-	-	-	-
TRIS	N	01-30-04	0.25	-	-	-	-	-	-	-
State Sites	Y	03-01-04	0.50	0	0	0	0	-	21	21
Spills-1990	Y	NA	0.50	0	0	0	0	-	0	0
Spills-1980	N	NA	0.25	-	-	-	-	-	-	-
SWL	Y	01-01-03	0.50	0	0	0	0	-	0	0
Permits	N	NA	0.25	-	-	-	-	-	-	-
Other	N	NA	0.25	-	-	-	-	-	-	-
REG UST/AST	Y	01-14-04	0.50	0	0	1	0	-	55	56
Leaking UST	Y	02-01-04	0.50	0	0	0	0	-	6	6
State Wells	N	NA	0.25	-	-	-	-	-	-	-
Aquifers	N	NA	0.25	-	-	-	-	-	-	-
ACEC	N	NA	0.25	-	-	-	-	-	-	-
Wetlands	N	11-20-00	0.25	-	-	-	-	-	-	-
Floodplains	N	05-04-98	0.25	-	-	-	-	-	-	-
Nuclear Permits	N	04-30-99	0.25	-	-	-	-	-	-	-
Historic/Landmark	N	09-01-02	0.25	-	-	-	-	-	-	-
Federal Land Use	N	06-17-98	0.25	-	-	-	-	-	-	-
Federal Wells	N	05-19-03	0.25	-	-	-	-	-	-	-
Releases(Air/Water)	N	12-31-03	0.25	-	-	-	-	-	-	-
HMIRS	N	03-31-03	0.25	-	-	-	-	-	-	-
NCDB	N	01-15-04	0.25	-	-	-	-	-	-	-
PADS	N	09-01-03	0.25	-	-	-	-	-	-	-
Federal Other	N	NA	0.25	-	-	-	-	-	-	-
Misc	N	NA	0.25	-	-	-	-	-	-	-
Towers	N	08-16-01	0.25	-	-	-	-	-	-	-
Soils	N	03-18-97	0.25	-	-	-	-	-	-	-
Receptors	N	01-01-95	0.25	-	-	-	-	-	-	-
- TOTALS -				0	0	1	0	0	95	96

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch *Site Information Report*

Request Date: 04-13-04
Requestor Name: palmer/trobinson/dana
Standard: LINEAR

Search Type: LINEAR
Job Number: 03-415

TARGET ADDRESS: US 641 - REPORT 1 OF 6
EDDYVILLE KY 42038

Demographics

Sites: 96	Non-Geocoded: 95	Population: NA
Radon: 0.4 - 6.5 PCI/L		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
Longitude:	-88.115024	-88:6:54	Easting:	400978.658
Latitude:	37.148476	37:8:55	Northing:	4111721.834
			Zone:	16

Comment

Comment:US 641 (GREEN)

Additional Requests/Services

Adjacent ZIP Codes: 0.25 Mile(s)

Services:

ZIP Code	City Name	ST	Dist/Dir	Sel		Requested?	Date
42055	KUTTAWA	KY	0.00 --	Y	Sanborns	No	
42064	MARION	KY	0.00 --	Y	Aerial Photographs	No	
42411	FREDONIA	KY	0.00 --	Y	Topographical Maps	No	
					City Directories	No	
					Title Search	No	
					Municipal Reports	No	
					Online Topos	No	

Environmental FirstSearch Site Information Report

Request Date: 04-13-04
Requestor Name: palmer/trobinson/dana
Standard: LINEAR

Search Type: LINEAR
Job Number: 03-415

TARGET ADDRESS: US 641 - REPORT 2 OF 6
EDDYVILLE KY 42038

Demographics

Sites: 48	Non-Geocoded: 47	Population: NA
Radon: 0.4 - 6.5 PCI/L		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>	<u>UTMs</u>
Longitude:	-88.072909	-88:4:22	Easting: 404717.088
Latitude:	37.14706	37:8:49	Northing: 4111521.614
			Zone: 16

Comment

Comment:US 641 BLUE

Additional Requests/Services

Adjacent ZIP Codes: 0.25 Mile(s)

Services:

ZIP Code	City Name	ST	Dist/Dir	Sel
42411	FREDONIA	KY	0.00 --	Y

	Requested?	Date
Sanborns	No	
Aerial Photographs	No	
Topographical Maps	No	
City Directories	No	
Title Search	No	
Municipal Reports	No	
Online Topos	No	

***Environmental FirstSearch
Site Information Report***

Request Date: 04-13-04
Requestor Name: palmer/trobinson/dana
Standard: LINEAR

Search Type: LINEAR
Job Number: 03-415

TARGET ADDRESS: US 641 - REPORT 3 OF 6
EDDYVILLE KY 42038

Demographics

Sites: 39	Non-Geocoded: 33	Population: NA
Radon: 0.4 - 6.5 PCI/L		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
Longitude:	-88.066315	-88:3:59	Easting:	405286.131
Latitude:	37.133765	37:8:2	Northing:	4110040.083
			Zone:	16

Comment

Comment:US 641 WHITE

Additional Requests/Services

Adjacent ZIP Codes: 0 Mile(s)

Services:

ZIP Code	City Name	ST	Dist/Dir	Sel

	Requested?	Date
Sanborns	No	
Aerial Photographs	No	
Topographical Maps	No	
City Directories	No	
Title Search	No	
Municipal Reports	No	
Online Topos	No	

*Environmental FirstSearch
Site Information Report*

Request Date: 04-13-04
Requestor Name: palmer/trobinson/dana
Standard: LINEAR

Search Type: LINEAR
Job Number: 03-415

TARGET ADDRESS: US 641 - REPORT 5 OF 6
FREDONIA KY 42411

Demographics

Sites: 46	Non-Geocoded: 46	Population: NA
Radon: NA		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
Longitude:	-88.055326	-88:3:19	Easting:	406319.076
Latitude:	37.179808	37:10:47	Northing:	4115137.125
			Zone:	16

Comment

Comment: US 641 YELLOW

Additional Requests/Services

Adjacent ZIP Codes: 0.25 Mile(s)

Services:

ZIP Code	City Name	ST	Dist/Dir	Sel	Requested?	Date
42038	EDDYVILLE	KY	0.00 --	Y	Sanborns	No
					Aerial Photographs	No
					Topographical Maps	No
					City Directories	No
					Title Search	No
					Municipal Reports	No
					Online Topos	No

Environmental FirstSearch **Site Information Report**

Request Date: 04-13-04
Requestor Name: palmer/trobinson/dana
Standard: LINEAR

Search Type: LINEAR
Job Number: 03-415

TARGET ADDRESS: US 641 - REPORT 6 OF 6
 FREDONIA KY 42411

Demographics

Sites: 122	Non-Geocoded: 122	Population: NA
Radon: NA		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
Longitude:	-88.034596	-88:2:5	Easting:	408146.107
Latitude:	37.168889	37:10:8	Northing:	4113905.499
			Zone:	16

Comment

Comment:US 641 GOLD

Additional Requests/Services

Adjacent ZIP Codes: 0.25 Mile(s)

Services:

ZIP Code	City Name	ST	Dist/Dir	Sel		Requested?	Date
42038	EDDYVILLE	KY	0.00 --	Y	Sanborns	No	
42064	MARION	KY	0.00 --	Y	Aerial Photographs	No	
42445	PRINCETON	KY	0.00 --	Y	Topographical Maps	No	
					City Directories	No	
					Title Search	No	
					Municipal Reports	No	
					Online Topos	No	

Environmental FirstSearch
Site Detail Report

TARGET SITE: US 641 - REPORT 1 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 (GREEN)

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 1 **DIST/DIR:** 0.18 NW **MAP ID:** 1

NAME: LYON COUNTY SCHOOL BUS GARAGE	REV: 1/14/04
ADDRESS: 101 JENKINS RD	ID1: 5137072
EDDYVILLE KY 42038	ID2:
LYON	STATUS:
CONTACT:	PHONE:

OWNER INFORMATION

OWNER NAME: LYON CO BD OF ED

OWNER ADDRESS: 217 JENKINS RD
EDDYVILLE KY 42038

TANK INFORMATION

TANK NUMBER: 1	TANK STATUS: ACTIVE	
TANK INSTALLED DATE: 12/1/1992	TANK CAPACITY: 2000 GALLONS	
CONTAINED DATE:	REMOVED DATE:	
CLOSED DATE:	TEMP CLOSED:	
INERT MATERIAL:	TANK CONTENTS: GASOLINE	
CONSTRUCTION MATERIAL: SINGLE WALL STEEL		
CORROSION PROTECTION: COATING AND CATHODIC PROTECTION		
RELEASE DETECTION: VAPOR MONITORING		
INTERNAL PROTECTION: INTERNAL LINING NOT APPLICABLE		
OVERFILL PROTECTION: FLOW RESTRICTOR		
SECONDARY CONTAINMENT:		
SPILL PREVENTION: CATCHMENT BASIN		

PIPE MATERIAL: STEEL	
PIPE TYPE: SUCTION	
CORROSION PROTECTION: FIELD INSTALLED CATHODIC PROTECTION	
PIPE RELEASE DETECTION: CKV	
SECONDARY CONAINMENT:	

TANK NUMBER: 2	TANK STATUS: ACTIVE	
TANK INSTALLED DATE: 12/1/1992	TANK CAPACITY: 10000 GALLONS	
CONTAINED DATE:	REMOVED DATE:	
CLOSED DATE:	TEMP CLOSED:	
INERT MATERIAL:	TANK CONTENTS: DIESEL	
CONSTRUCTION MATERIAL: SINGLE WALL STEEL		
CORROSION PROTECTION: COATING AND CATHODIC PROTECTION		
RELEASE DETECTION: VAPOR MONITORING		
INTERNAL PROTECTION: INTERNAL LINING NOT APPLICABLE		
OVERFILL PROTECTION: FLOW RESTRICTOR		
SECONDARY CONTAINMENT:		
SPILL PREVENTION: CATCHMENT BASIN		

PIPE MATERIAL: STEEL	
PIPE TYPE: SUCTION	
CORROSION PROTECTION: FIELD INSTALLED CATHODIC PROTECTION	
PIPE RELEASE DETECTION: CKV	
SECONDARY CONAINMENT:	

Environmental FirstSearch
Site Detail Report

TARGET SITE: US 641 - REPORT 2 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 BLUE

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 1 **DIST/DIR:** 0.34 NW **MAP ID:** 1

NAME: LYON COUNTY SCHOOL BUS GARAGE	REV: 1/14/04
ADDRESS: 101 JENKINS RD	ID1: 5137072
EDDYVILLE KY 42038	ID2:
LYON	STATUS:
CONTACT:	PHONE:

OWNER INFORMATION

OWNER NAME: LYON CO BD OF ED
OWNER ADDRESS: 217 JENKINS RD
EDDYVILLE KY 42038

TANK INFORMATION

TANK NUMBER: 1	TANK STATUS: ACTIVE	
TANK INSTALLED DATE: 12/1/1992	TANK CAPACITY: 2000 GALLONS	
CONTAINED DATE:	REMOVED DATE:	
CLOSED DATE:	TEMP CLOSED:	
INERT MATERIAL:	TANK CONTENTS: GASOLINE	
CONSTRUCTION MATERIAL: SINGLE WALL STEEL		
CORROSION PROTECTION: COATING AND CATHODIC PROTECTION		
RELEASE DETECTION: VAPOR MONITORING		
INTERNAL PROTECTION: INTERNAL LINING NOT APPLICABLE		
OVERFILL PROTECTION: FLOW RESTRICTOR		
SECONDARY CONTAINMENT:		
SPILL PREVENTION: CATCHMENT BASIN		
PIPE MATERIAL: STEEL		
PIPE TYPE: SUCTION		
CORROSION PROTECTION: FIELD INSTALLED CATHODIC PROTECTION		
PIPE RELEASE DETECTION: CKV		
SECONDARY CONAINMENT:		

TANK NUMBER: 2	TANK STATUS: ACTIVE	
TANK INSTALLED DATE: 12/1/1992	TANK CAPACITY: 10000 GALLONS	
CONTAINED DATE:	REMOVED DATE:	
CLOSED DATE:	TEMP CLOSED:	
INERT MATERIAL:	TANK CONTENTS: DIESEL	
CONSTRUCTION MATERIAL: SINGLE WALL STEEL		
CORROSION PROTECTION: COATING AND CATHODIC PROTECTION		
RELEASE DETECTION: VAPOR MONITORING		
INTERNAL PROTECTION: INTERNAL LINING NOT APPLICABLE		
OVERFILL PROTECTION: FLOW RESTRICTOR		
SECONDARY CONTAINMENT:		
SPILL PREVENTION: CATCHMENT BASIN		
PIPE MATERIAL: STEEL		
PIPE TYPE: SUCTION		
CORROSION PROTECTION: FIELD INSTALLED CATHODIC PROTECTION		
PIPE RELEASE DETECTION: CKV		
SECONDARY CONAINMENT:		



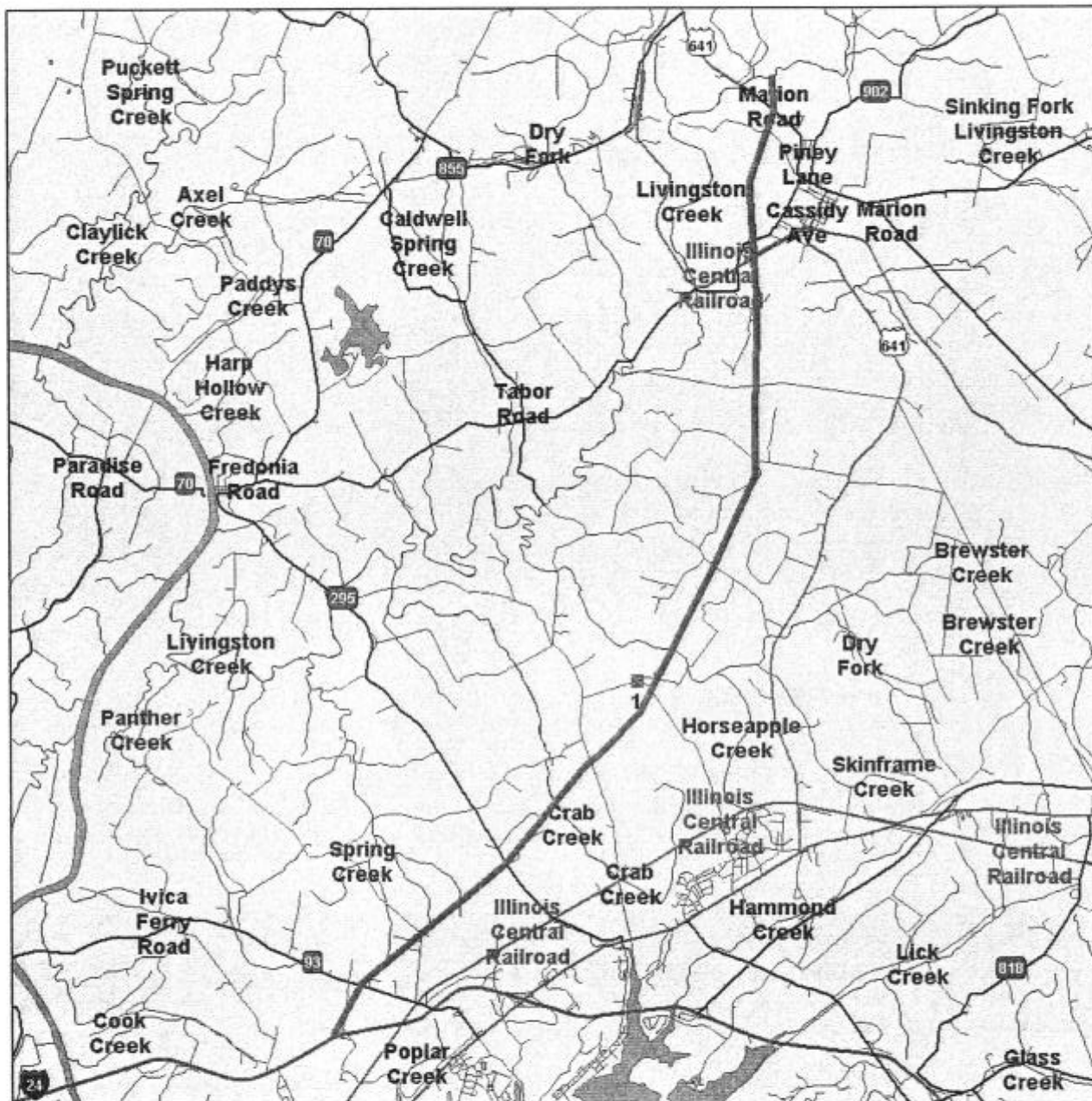
Environmental FirstSearch

.5 Mile Radius from Line

LINEAR: All Databases



US 641 - REPORT 1 OF 6, EDDYVILLE KY 42038



Source: 1999 U.S. Census TIGER Files

- Linear Search Line
- Identified Site, Multiple Sites, Receptor
- NPL, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads
- Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

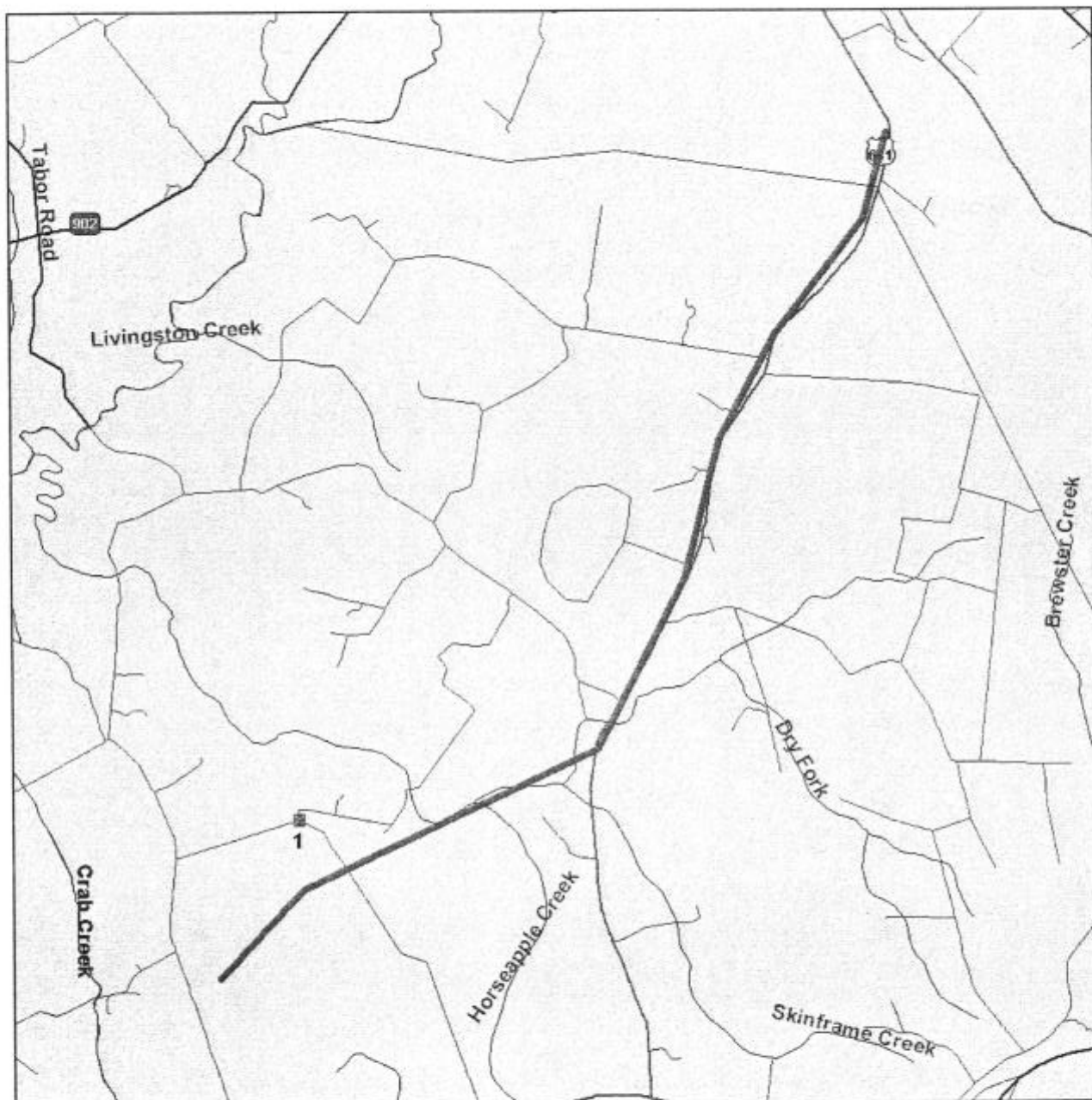


Environmental FirstSearch

.5 Mile Radius from Line
LINEAR: All Databases



US 641 - REPORT 2 OF 6, EDDYVILLE KY 42038



Source: 1999 U.S. Census TIGER Files

- Linear Search Line
Identified Site, Multiple Sites, Receptor
NPL, Solid Waste Landfill (SWL) or Hazardous Waste
Railroads
Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

***Environmental FirstSearch
Site Detail Report***

TARGET SITE: US 641 - REPORT 3 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 WHITE

RCRA GENERATOR SITE

SEARCH ID: 1	DIST/DIR: 0.02 SW	MAP ID: 1
---------------------	--------------------------	------------------

NAME: BARKLEY LOCK
ADDRESS: HIGHWAY 62/641 - BARKLEY DAM
GRAND RIVERS KY 42045
LIVINGSTON
CONTACT: GERALD B. CUNNINGHAM

REV: 2/9/04
ID1: KY8960019398
ID2:
STATUS: VGN
PHONE: 5023624222

SITE INFORMATION

UNIVERSE TYPE:

CEG - CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS: GENERATES LESS THAN 100 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

9199 - PUBLIC ADMIN. - GENRAL GOVERNMENT, NEC

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

**Environmental FirstSearch
Site Detail Report**

TARGET SITE: US 641 - REPORT 3 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 WHITE

RCRA GENERATOR SITE

SEARCH ID: 2 **DIST/DIR:** 0.02 SW **MAP ID:** 1

NAME: KENTUCKY LOCK
ADDRESS: HWY 62/641 - KENTUCKY DAM
GRAND RIVERS KY 42045
LIVINGSTON
CONTACT: GARY H. HUBBARD

REV: 2/9/04
ID1: KY9960019397
ID2:
STATUS: VGN
PHONE: 5023624322

SITE INFORMATION

UNIVERSE TYPE:

CEG - CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS: GENERATES LESS THAN 100 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

9199 - PUBLIC ADMIN. - GENRAL GOVERNMENT, NEC

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

TARGET SITE: US 641 - REPORT 3 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 WHITE

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 3

DIST/DIR: 0.03 SE

MAP ID: 2

NAME: BLUEGRASS OIL CO/EDDYVILLE GULF
ADDRESS: HWY 641 & 62
EDDYVILLE KY 42038
LYON
CONTACT: RAYMOND BELT

REV: 1/14/04
ID1: 5970072
ID2:
STATUS:
PHONE:

OWNER INFORMATION

OWNER NAME: RAYMOND BELT
OWNER ADDRESS: 411 S MAIN ST
MARION KY 42064

TANK INFORMATION

TANK NUMBER:	1	TANK STATUS:	VERIFIED REMOVAL
TANK INSTALLED DATE:	6/1/1962	TANK CAPACITY:	6000 GALLONS
CONTAINED DATE:		REMOVED DATE:	1/18/1995
CLOSED DATE:		TEMP CLOSED:	
INERT MATERIAL:		TANK CONTENTS:	GASOLINE
CONSTRUCTION MATERIAL:	SINGLE WALL STEEL		
CORROSION PROTECTION:	XNA		
RELEASE DETECTION:	INVENTORY RECORDS /TANK TIGHTNESS TEST		
INTERNAL PROTECTION:	INTERIOR LINING PROTECTION		
OVERFILL PROTECTION:	NONE		
SECONDARY CONTAINMENT:			
SPILL PREVENTION:	CATCHMENT BASIN		
PIPE MATERIAL:	STEEL		
PIPE TYPE:	PRESSURIZED		
CORROSION PROTECTION:	NONE		
PIPE RELEASE DETECTION:	NONE		
SECONDARY CONAINMENT:			

TANK NUMBER:	2	TANK STATUS:	VERIFIED REMOVAL
TANK INSTALLED DATE:	6/1/1962	TANK CAPACITY:	6000 GALLONS
CONTAINED DATE:		REMOVED DATE:	1/18/1995
CLOSED DATE:		TEMP CLOSED:	
INERT MATERIAL:		TANK CONTENTS:	GASOLINE
CONSTRUCTION MATERIAL:	SINGLE WALL STEEL		
CORROSION PROTECTION:	XNA		
RELEASE DETECTION:	INVENTORY RECORDS /TANK TIGHTNESS TEST		
INTERNAL PROTECTION:	INTERIOR LINING PROTECTION		
OVERFILL PROTECTION:	NONE		
SECONDARY CONTAINMENT:			
SPILL PREVENTION:	CATCHMENT BASIN		
PIPE MATERIAL:	STEEL		
PIPE TYPE:	PRESSURIZED		
CORROSION PROTECTION:	NONE		
PIPE RELEASE DETECTION:	NONE		
SECONDARY CONAINMENT:			

- Continued on next page -

Environmental FirstSearch
Site Detail Report

TARGET SITE: US 641 - REPORT 3 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 WHITE

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 3

DIST/DIR: 0.03 SE

MAP ID: 2

NAME: BLUEGRASS OIL CO/EDDYVILLE GULF
ADDRESS: HWY 641 & 62
EDDYVILLE KY 42038
LYON
CONTACT: RAYMOND BELT

REV: 1/14/04
ID1: 5970072
ID2:
STATUS:
PHONE:

TANK NUMBER: 3
TANK INSTALLED DATE: 6/1/1985
CONTAINED DATE:
CLOSED DATE:
INERT MATERIAL:
CONSTRUCTION MATERIAL: SINGLE WALL STEEL
CORROSION PROTECTION: NONE
RELEASE DETECTION: MANUAL TANK GAUGING
INTERNAL PROTECTION: NONE
OVERFILL PROTECTION: NONE
SECONDARY CONTAINMENT:
SPILL PREVENTION: NONE

TANK STATUS: VERIFIED REMOVAL
TANK CAPACITY: 2000 GALLONS
REMOVED DATE: 1/18/1995
TEMP CLOSED:
TANK CONTENTS: DIESEL

PIPE MATERIAL: STEEL
PIPE TYPE: SUCTION
CORROSION PROTECTION: NONE
PIPE RELEASE DETECTION: CKV
SECONDARY CONAINMENT:

**Environmental FirstSearch
Site Detail Report**

TARGET SITE: US 641 - REPORT 3 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 WHITE

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 4

DIST/DIR: 0.02 SW

MAP ID: 3

NAME: OLD CHEVRON STATION
ADDRESS: HWY 62 & 641
GRAND RIVERS KY 42045
LIVINGSTON
CONTACT:

REV: 1/14/04
ID1: 5927070
ID2:
STATUS:
PHONE:

OWNER INFORMATION

OWNER NAME: REED CRUSHED STONE COMPANY INC
OWNER ADDRESS: 947 HWY 62
GRAND RIVERS KY 42045

TANK INFORMATION

TANK NUMBER:	1	TANK STATUS:	UNVERIFIED REMOVAL/CLOSURE
TANK INSTALLED DATE:	1/1/2001	TANK CAPACITY:	5000 GALLONS
CONTAINED DATE:		REMOVED DATE:	10/11/1989
CLOSED DATE:		TEMP CLOSED:	
INERT MATERIAL:		TANK CONTENTS:	OIL
CONSTRUCTION MATERIAL:	SINGLE WALL STEEL		
CORROSION PROTECTION:	UNKNOWN		
RELEASE DETECTION:	NONE		
INTERNAL PROTECTION:	UNKNOWN		
OVERFILL PROTECTION:	UNKNOWN		
SECONDARY CONTAINMENT:			
SPILL PREVENTION:	UNKNOWN		
PIPE MATERIAL:	STEEL		
PIPE TYPE:	UNKNOWN		
CORROSION PROTECTION:	UNKNOWN		
PIPE RELEASE DETECTION:	UNKNOWN		
SECONDARY CONAINMENT:			

TANK NUMBER:	2	TANK STATUS:	UNVERIFIED REMOVAL/CLOSURE
TANK INSTALLED DATE:	1/1/2001	TANK CAPACITY:	5000 GALLONS
CONTAINED DATE:		REMOVED DATE:	10/11/1989
CLOSED DATE:		TEMP CLOSED:	
INERT MATERIAL:		TANK CONTENTS:	OIL
CONSTRUCTION MATERIAL:	SINGLE WALL STEEL		
CORROSION PROTECTION:	UNKNOWN		
RELEASE DETECTION:	NONE		
INTERNAL PROTECTION:	UNKNOWN		
OVERFILL PROTECTION:	UNKNOWN		
SECONDARY CONTAINMENT:			
SPILL PREVENTION:	UNKNOWN		
PIPE MATERIAL:	STEEL		
PIPE TYPE:	UNKNOWN		
CORROSION PROTECTION:	UNKNOWN		
PIPE RELEASE DETECTION:	UNKNOWN		
SECONDARY CONAINMENT:			

- Continued on next page -

Environmental FirstSearch
Site Detail Report

TARGET SITE: US 641 - REPORT 3 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 WHITE

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 4

DIST/DIR: 0.02 SW

MAP ID: 3

NAME: OLD CHEVRON STATION
ADDRESS: HWY 62 & 641
GRAND RIVERS KY 42045
LIVINGSTON
CONTACT:

REV: 1/14/04
ID1: 5927070
ID2:
STATUS:
PHONE:

TANK NUMBER: 3
TANK INSTALLED DATE: 1/1/2001
CONTAINED DATE:
CLOSED DATE:
INERT MATERIAL:
CONSTRUCTION MATERIAL: SINGLE WALL STEEL
CORROSION PROTECTION: UNKNOWN
RELEASE DETECTION: NONE
INTERNAL PROTECTION: UNKNOWN
OVERFILL PROTECTION: UNKNOWN
SECONDARY CONTAINMENT:
SPILL PREVENTION: UNKNOWN

TANK STATUS: UNVERIFIED REMOVAL/CLOSURE
TANK CAPACITY: 3000 GALLONS
REMOVED DATE: 10/11/1989
TEMP CLOSED:
TANK CONTENTS: OIL

PIPE MATERIAL: STEEL
PIPE TYPE: UNKNOWN
CORROSION PROTECTION: UNKNOWN
PIPE RELEASE DETECTION: UNKNOWN
SECONDARY CONAINMENT:

TANK NUMBER: 4
TANK INSTALLED DATE: 1/1/2001
CONTAINED DATE:
CLOSED DATE:
INERT MATERIAL:
CONSTRUCTION MATERIAL: SINGLE WALL STEEL
CORROSION PROTECTION: UNKNOWN
RELEASE DETECTION: NONE
INTERNAL PROTECTION: UNKNOWN
OVERFILL PROTECTION: UNKNOWN
SECONDARY CONTAINMENT:
SPILL PREVENTION: UNKNOWN

TANK STATUS: UNVERIFIED REMOVAL/CLOSURE
TANK CAPACITY: 3000 GALLONS
REMOVED DATE: 10/11/1989
TEMP CLOSED:
TANK CONTENTS: OIL

PIPE MATERIAL: STEEL
PIPE TYPE: UNKNOWN
CORROSION PROTECTION: UNKNOWN
PIPE RELEASE DETECTION: UNKNOWN
SECONDARY CONAINMENT:

JOB: 03-415
US 641 WHITE

Site Details Page - 7

Environmental FirstSearch
Site Detail Report

TARGET SITE: US 641 - REPORT 3 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 WHITE

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 5 **DIST/DIR:** 0.26 NE **MAP ID:** 4

NAME: SOUTHERN EXCAVATING (DUNCANS)
ADDRESS: 1983 US HWY 62 E
EDDYVILLE KY 42038

REV: 1/14/04
ID1: 5246072
ID2:
STATUS:
PHONE:

CONTACT:

TANK NUMBER:	3	TANK STATUS:	VERIFIED REMOVAL
TANK INSTALLED DATE:	1/1/1970	TANK CAPACITY:	6000 GALLONS
CONTAINED DATE:		REMOVED DATE:	9/14/1996
CLOSED DATE:		TEMP CLOSED:	2/5/1996
INERT MATERIAL:		TANK CONTENTS:	GASOLINE
CONSTRUCTION MATERIAL:	SINGLE WALL STEEL		
CORROSION PROTECTION:	UNKNOWN		
RELEASE DETECTION:	NONE		
INTERNAL PROTECTION:	NONE		
OVERFILL PROTECTION:	NONE		
SECONDARY CONTAINMENT:			
SPILL PREVENTION:	NONE		
PIPE MATERIAL:	STEEL		
PIPE TYPE:	SUCTION		
CORROSION PROTECTION:	UNKNOWN		
PIPE RELEASE DETECTION:	NONE		
SECONDARY CONAINMENT:			

JOB: 03-415
US 641 WHITE

Site Details Page - 9



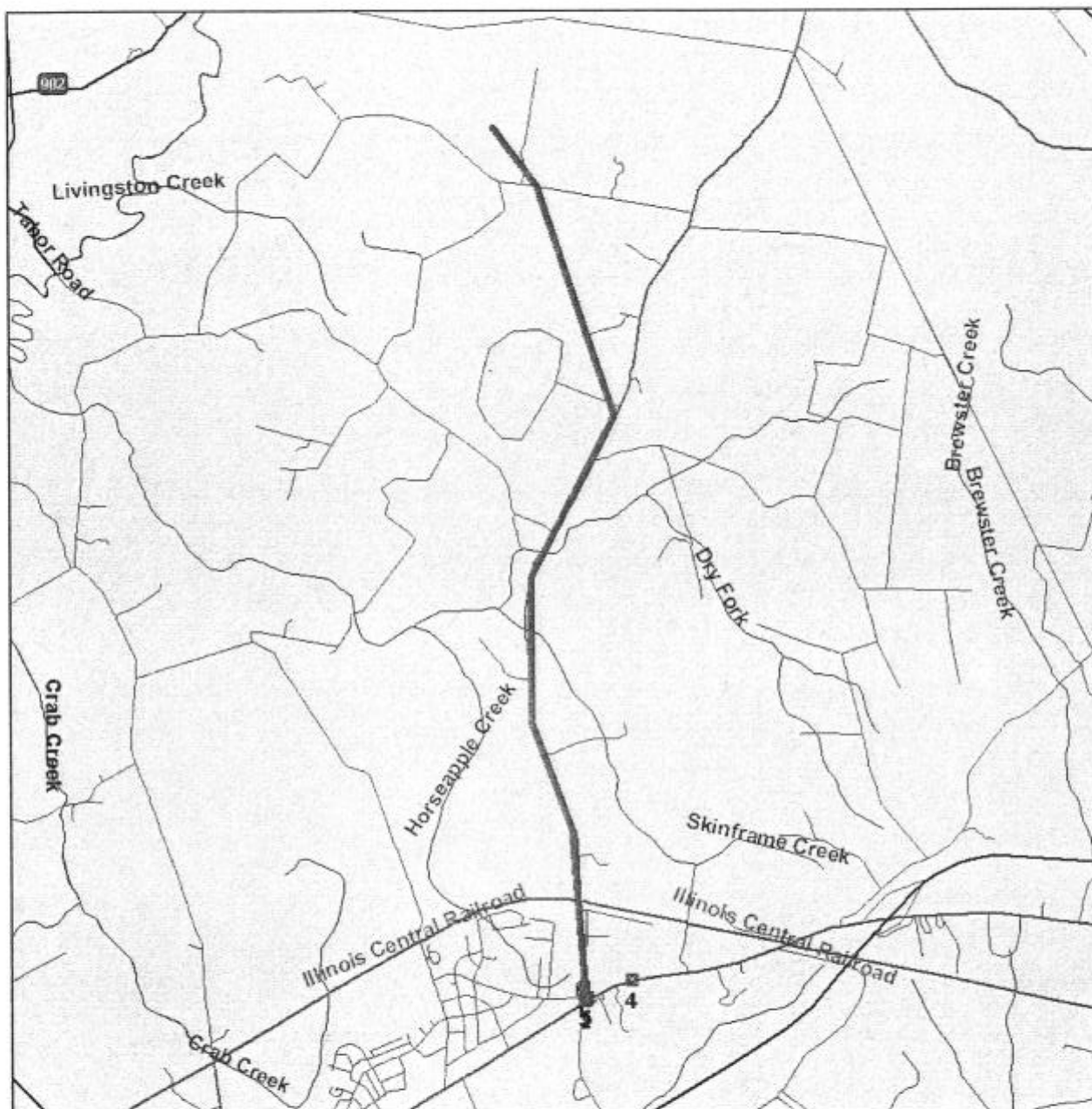
Environmental FirstSearch

.5 Mile Radius from Line

LINEAR: All Databases



US 641 - REPORT 3 OF 6, EDDYVILLE KY 42038



Source: 1999 U.S. Census TIGER Files

- Linear Search Line
Identified Site, Multiple Sites, Receptor
NPL, Solid Waste Landfill (SWL) or Hazardous Waste
Railroads
Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

Environmental FirstSearch
Site Detail Report

TARGET SITE: US 641 - REPORT 4 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 BEIGE

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 1 **DIST/DIR:** 0.04 SE **MAP ID:** 1

NAME: FORMER DAVES OIL	REV: 1/14/04
ADDRESS: 2975 US 62 E	ID1: 3764072
EDDYVILLE KY 42038	ID2:
LYON	STATUS:
CONTACT: HAROLD CUMMINS	PHONE:

OWNER INFORMATION

OWNER NAME: HAROLD CUMMINS

OWNER ADDRESS: 16262 DAWSON RD
DAWSON SPRINGS KY 42408

TANK INFORMATION

TANK NUMBER: 1	TANK STATUS:	TEMPORARILY CLOSED
TANK INSTALLED DATE: 1/1/1971	TANK CAPACITY:	10000 GALLONS
CONTAINED DATE:	REMOVED DATE:	
CLOSED DATE:	TEMP CLOSED:	8/1/2000
INERT MATERIAL:	TANK CONTENTS:	GASOLINE
CONSTRUCTION MATERIAL: SINGLE WALL STEEL		
CORROSION PROTECTION: IMPRESSED CURRENT CATHODIC PROTECTION		
RELEASE DETECTION: INVENTORY RECORDS /TANK TIGHTNESS TEST		
INTERNAL PROTECTION: INTERNAL LINING NOT APPLICABLE		
OVERFILL PROTECTION: AUTOMATIC SHUTOFF DEVICE		
SECONDARY CONTAINMENT:		
SPILL PREVENTION: CATCHMENT BASIN		
PIPE MATERIAL: STEEL		
PIPE TYPE: PRESSURIZED		
CORROSION PROTECTION: IMPRESSED CURRENT CATHODIC PROTECTION		
PIPE RELEASE DETECTION: AUTO. LINE LEAK DETECTOR		
SECONDARY CONAINMENT:		

TANK NUMBER: 2	TANK STATUS:	TEMPORARILY CLOSED
TANK INSTALLED DATE: 1/1/1971	TANK CAPACITY:	10000 GALLONS
CONTAINED DATE:	REMOVED DATE:	
CLOSED DATE:	TEMP CLOSED:	8/1/2000
INERT MATERIAL:	TANK CONTENTS:	GASOLINE
CONSTRUCTION MATERIAL: SINGLE WALL STEEL		
CORROSION PROTECTION: IMPRESSED CURRENT CATHODIC PROTECTION		
RELEASE DETECTION: INVENTORY RECORDS /TANK TIGHTNESS TEST		
INTERNAL PROTECTION: INTERNAL LINING NOT APPLICABLE		
OVERFILL PROTECTION: AUTOMATIC SHUTOFF DEVICE		
SECONDARY CONTAINMENT:		
SPILL PREVENTION: CATCHMENT BASIN		
PIPE MATERIAL: STEEL		
PIPE TYPE: PRESSURIZED		
CORROSION PROTECTION: IMPRESSED CURRENT CATHODIC PROTECTION		
PIPE RELEASE DETECTION: AUTO. LINE LEAK DETECTOR		
SECONDARY CONAINMENT:		

- Continued on next page -

Environmental FirstSearch **Site Detail Report**

TARGET SITE: US 641 - REPORT 4 OF 6
EDDYVILLE KY 42038

JOB: 03-415
US 641 BEIGE

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 1 **DIST/DIR:** 0.04 SE **MAP ID:** 1

NAME:	FORMER DAVES OIL	REV:	1/14/04
ADDRESS:	2975 US 62 E	ID1:	3764072
	EDDYVILLE KY 42038	ID2:	
	LYON	STATUS:	
CONTACT:	HAROLD CUMMINS	PHONE:	

TANK NUMBER:	3	TANK STATUS:	TEMPORARILY CLOSED
TANK INSTALLED DATE:	1/1/1971	TANK CAPACITY:	5000 GALLONS
CONTAINED DATE:		REMOVED DATE:	
CLOSED DATE:		TEMP CLOSED:	8/1/2000
INERT MATERIAL:		TANK CONTENTS:	DIESEL
CONSTRUCTION MATERIAL:	SINGLE WALL STEEL		
CORROSION PROTECTION:	IMPRESSED CURRENT CATHODIC PROTECTION		
RELEASE DETECTION:	INVENTORY RECORDS /TANK TIGHTNESS TEST		
INTERNAL PROTECTION:	INTERNAL LINING NOT APPLICABLE		
OVERFILL PROTECTION:	AUTOMATIC SHUTOFF DEVICE		
SECONDARY CONTAINMENT:			
SPILL PREVENTION:	CATCHMENT BASIN		

PIPE MATERIAL:	STEEL
PIPE TYPE:	PRESSURIZED
CORROSION PROTECTION:	IMPRESSED CURRENT CATHODIC PROTECTION
PIPE RELEASE DETECTION:	AUTO. LINE LEAK DETECTOR
SECONDARY CONAINMENT:	

TANK NUMBER:	4	TANK STATUS:	EXEMPT FROM UST REGS
TANK INSTALLED DATE:	1/1/1971	TANK CAPACITY:	1000 GALLONS
CONTAINED DATE:		REMOVED DATE:	
CLOSED DATE:		TEMP CLOSED:	
INERT MATERIAL:		TANK CONTENTS:	FUEL OIL
CONSTRUCTION MATERIAL:	FIBERGLASS REINFORCED PLASTIC		
CORROSION PROTECTION:	FIBERGLASS REIN. PLASTIC		
RELEASE DETECTION:	MANUAL TANK GAUGING		
INTERNAL PROTECTION:	INTERNAL LINING NOT APPLICABLE		
OVERFILL PROTECTION:	NONE		
SECONDARY CONTAINMENT:			
SPILL PREVENTION:	NONE		

PIPE MATERIAL:	STEEL
PIPE TYPE:	SUCTION
CORROSION PROTECTION:	NONE
PIPE RELEASE DETECTION:	ANN. LINE TIGHTNESS TEST
SECONDARY CONAINMENT:	



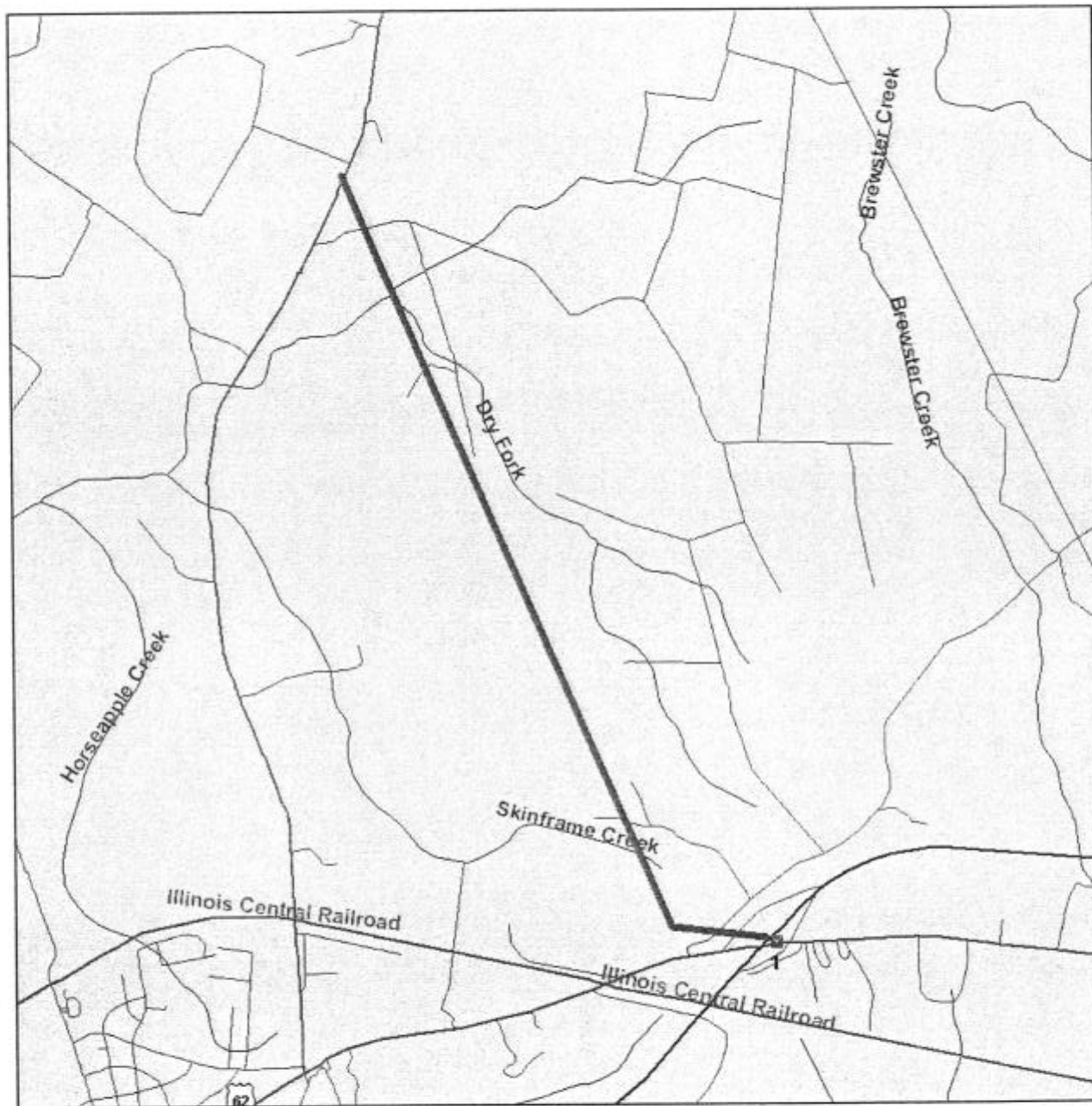
Environmental FirstSearch

.5 Mile Radius from Line

LINEAR: All Databases



US 641 - REPORT 4 OF 6, EDDYVILLE KY 42038



Source: 1999 U.S. Census TIGER Files

- Linear Search Line
Identified Site, Multiple Sites, Receptor
NPL, Solid Waste Landfill (SWL) or Hazardous Waste
Railroads
Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius



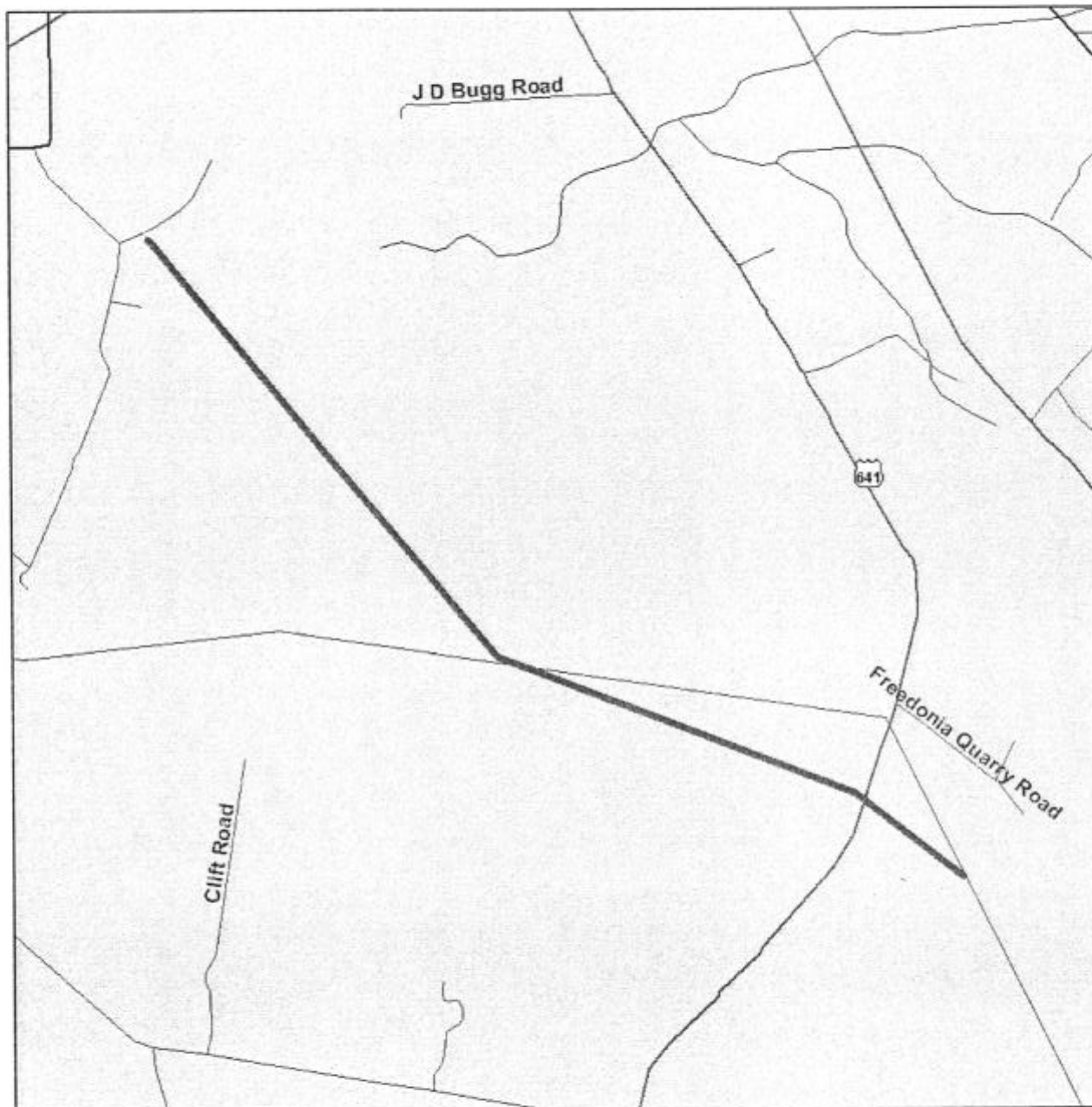
Environmental FirstSearch

.25 Mile Radius from Line
ASTM Map: RCRAGEN, ERNS, UST

Environmental
FIRSTSEARCH



US 641 - REPORT 5 OF 6, FREDONIA KY 42411



Source: 1999 U.S. Census TIGER Files

Linear Search Line
Identified Site, Multiple Sites, Receptor
NPL, Solid Waste Landfill (SWL) or Hazardous Waste
Railroads
Black Rings Represent 1/4 Mile Radii; Red Ring Represents 300 ft. Radius

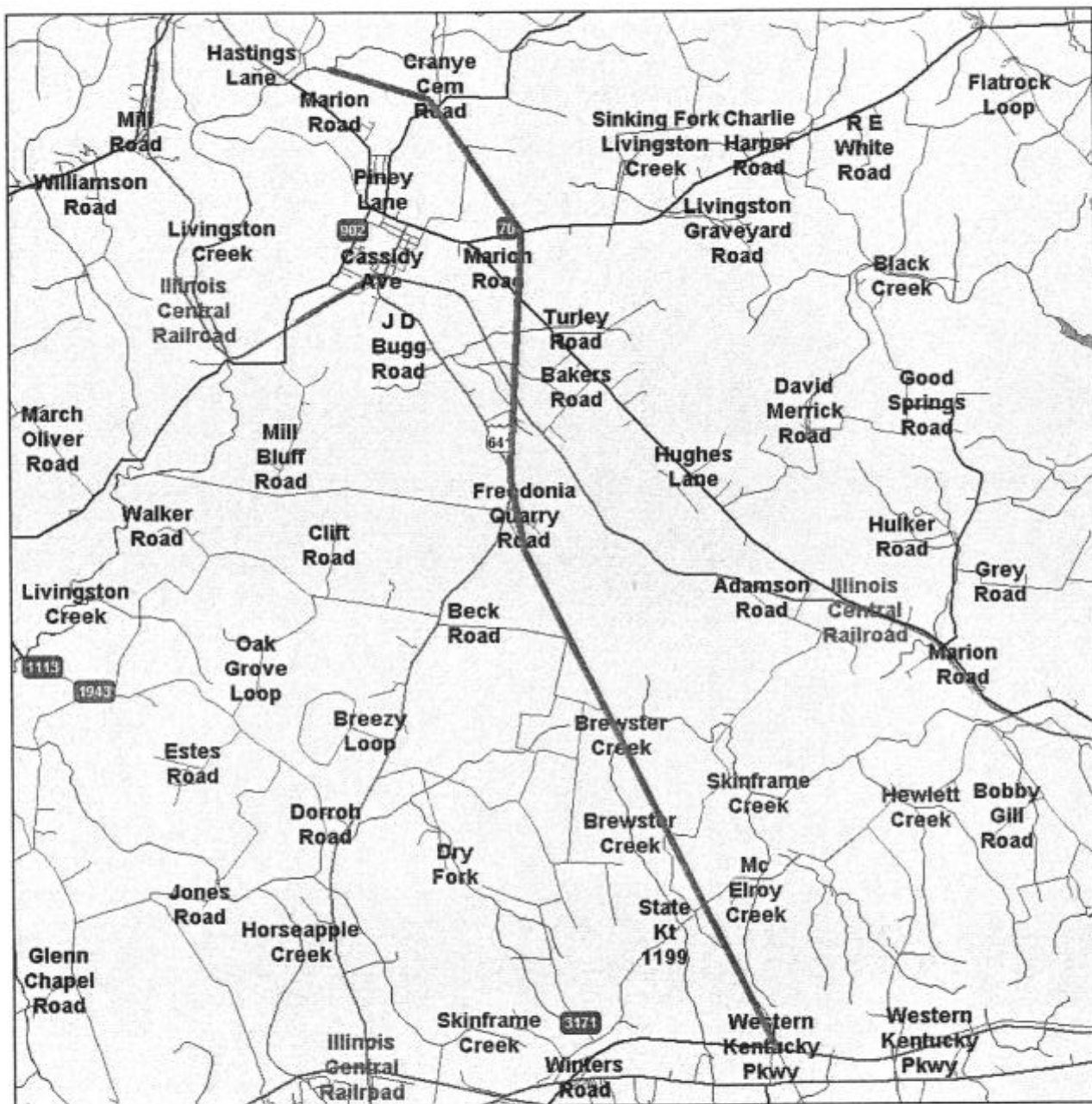


Environmental FirstSearch

.25 Mile Radius from Line
ASTM Map: RCRAGEN, ERNS, UST



US 641 - REPORT 6 OF 6, FREDONIA KY 42411



Source: 1999 U.S. Census TIGER Files

Linear Search Line
Identified Site, Multiple Sites, Receptor
NPL, Solid Waste Landfill (SWL) or Hazardous Waste
Railroads
Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

APPENDIX EO-C

Project Study Area Photographs



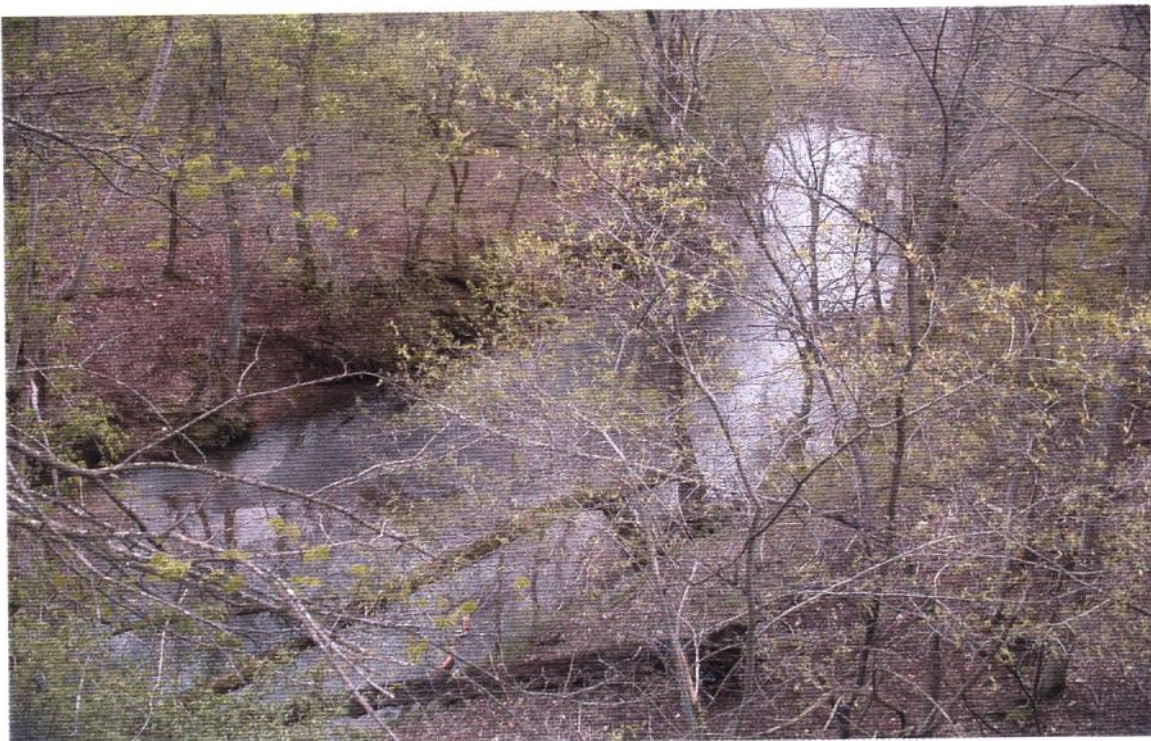
Livestock grazing in pastures is a common sight seen from project area roads.



Large agricultural fields are another frequently seen sight from project area roads.



One mile southwest of Fredonia is Mill Bluff Spring, is one of the largest known springs in the project corridor.



Mill Bluff Spring is a tributary of Livingston Creek and drains several sinking creeks in Lyon and Caldwell Counties.

Prepared For

Wilbur Smith Associates
465 East High Street, Suite 100
Lexington, KY 40507-1938

Prepared by

QORE™, Inc.
422 Codell Drive
Lexington, Kentucky 40509

GEOTECHNICAL ISSUES FOR US 641

From Eddyville to North of Fredonia
Lyon and Caldwell Counties, Kentucky
QORE Project No. 24302831
July 19, 2004

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July 19, 2004

Wilbur Smith Associates
465 East High Street, Suite 100
Lexington, KY 40507-1938

Attention: Mr. Carl Dixon, P.E.

Reference: **Geotechnical Issues for US 641**
From Eddyville to North of Fredonia
Lyon and Caldwell Counties, Kentucky
QORE Project No. 24302831

Dear Mr. Dixon:

QORE, Inc. reviewed the eight proposed corridors for the section of US 641 from Eddyville to North of Fredonia. This report explains our understanding of the project, documents our findings, and presents our conclusions and engineering recommendations.

QORE appreciates the opportunity to be of service to you. We look forward to helping you through project completion. If you have any questions, please call.

Respectfully submitted,
QORE, Inc.

Bruce L. Hatcher, P.E.
Senior Geotechnical Engineer
Licensed KY 14527

Craig S. Lee, P.E.
Senior Engineer

24302831 GEO Report

Attachments: Index Map
Proposed Corridors (Sheets A - D)
Geology Column (2 Sheets)
Geology Explanation
Proposed Corridors Geology (Sheets A - D)

GEOTECHNICAL ISSUES FOR US 641

From Eddyville to North of Fredonia
Lyon and Caldwell Counties, Kentucky
QORE Project No. 24302831

Introduction

QORE, Inc. reviewed the proposed corridors for US 641 between Eddyville and north-northwest of Fredonia in Lyon and Caldwell Counties. The West Kentucky State Penitentiary Farm is located near the southeastern corner of the project area.

The project begins near Eddyville and heads northerly to a terminus point about 1.5 miles north-northwest of Fredonia. At present, there are eight proposed corridors (Alternates 1 through 4 and Alternates 1A through 4A). Each of the eight corridors terminates at the same point. However, there are four different beginning points. Alternates 1 and 1A begin at the Wendell H. Ford Parkway (Western Kentucky Parkway) where it crosses the Caldwell/Lyon County line. Alternates 2 and 2A begin at the intersection of US Highways 62 and 641 in the community of Fairview. Alternates 3 and 3A begin at Interstate 24 about 2 ¼ miles west of its intersection with US Highway 62. Alternates 4 and 4A begin where US Highway 62 intersects the Wendell H. Ford Parkway (Western Kentucky Parkway).

The eight corridors consist of various sections, some of which overlap with other corridors. As such, the eight corridors are color coded on the attached drawings. The following list of corridors indicates the applicable color coding for each proposed corridor

Corridor Identification

Color Coding

Alternate 1	Gold
Alternate 1A	Gold-Yellow-Green
Alternate 2	Pink-Green
Alternate 2A	Pink-Blue-Gold
Alternate 3	Green
Alternate 3A	Green-Blue-Gold
Alternate 4	Yellow-Pink-Green
Alternate 4A	Yellow-Blue-Gold

Due to the large scale of the project and the overlapping nature of the proposed corridors, four base maps (Sheets A through D) are needed to cover the project area. Please reference the attached Index Map for details of the four base maps.

General Topography

All eight proposed corridors lie within Lyon and Caldwell Counties. The proposed corridors (or corridor sections) which lie along the eastern side of the project area will be located within the Fredonia Valley. The Fredonia Valley is characterized by gently rolling hills. The majority of the Fredonia Valley is comprised of farmland, pastures, or forest. The proposed corridors (or corridor sections) which lie along the western side of the project area will be located in

moderately sloping terrain with narrow valleys. The terrain is steeper and more hilly west and directly north of Eddyville. Depending upon the selected corridor, the project could be constructed across four USGS (United States Geologic Survey) quadrangle maps. General location and topographic information about the proposed corridors across each quadrangle is listed below. Elevation ranges are within the potential construction areas only.

<u>Quadrangle</u>	<u>Location on Quadrangle</u>	<u>Elevation Ranges</u>
Fredonia	Majority	375 to 530 feet
Eddyville	Northern portion	400 to 610 feet
Grand Rivers	Northeast corner	450 to 520 feet
Princeton West	Northwest corner (barely)	570 to 620 feet

General Geology

We reviewed the geologic information along the proposed corridors from the four USGS Geologic Quadrangles. The major rock formations encountered are discussed separately in the following paragraphs.

Rosiclare Sandstone and Fredonia Limestone Members of the Saint Genevieve Limestone – The majority of the Fredonia Valley is underlain by the Rosiclare Sandstone and Fredonia Limestone Members of the Saint Genevieve Limestone. The Rosiclare Sandstone Member is comprised of 5 to 10 feet of sandstone and shale. The Fredonia Limestone member is comprised of limestone and shale. The Fredonia Limestone member is prone to sinkholes.

The Upper and Lower Members of the Saint Louis Limestone - To the west and south of the Fredonia Valley, the project area is underlain by the Upper and Lower Members of the Saint Louis Limestone. These rocks are comprised of medium to light gray limestone.

Gravel – Gravel is noted in the southwestern portion of the project area near the beginning of Alternates 3 and 3A along the north side of Interstate 24. The gravel is mostly pebbles with cobbles as large as 5 inches.

Alluvium – The valley bottoms are typically comprised of alluvium (i.e. – water transported soils). The alluvium is typically thicker along the banks of the larger streams and rivers, and less thick along the minor creeks or streams. Alluvium in this general area is comprised of varying combinations of sand, silt, clay, and gravel.

Tuscaloosa Formation - A small area of the Tuscaloosa Formation is present within the eastern edge of Alternates 1 and 1A corridors near the intersection with the Western Kentucky Parkway (Wendell H. Ford Parkway). However, it is unlikely that this formation will be encountered during construction.

The local geology changes drastically north of Fredonia as each of the eight proposed corridors crosses the Tabb Fault System within the final 3500 to 5000 feet. North of the Tabb Fault System, there are several types of bedrock encountered. These rock types are discussed briefly in the following paragraph.

The **Hardinsburg Sandstone** is comprised of sandstone and shale. As much as 2 feet of coal occurs near the middle of the formation. The **Saint Genevieve Limestone** is mapped as one

unit in the fault area. However, it is likely that the lower portion of the Fredonia Limestone Member will be encountered in this area. The **Menard Limestone** is comprised of limestone and shale. The **Palestine Sandstone** is comprised of sandstone and shale. The **Kinkaid Limestone**, **Degonia Sandstone** and **Clore Limestone** are mapped as one unit within this area. However, it is likely that the Clore Limestone will be encountered since it lies directly on top of the Palestine Sandstone. The Clore Limestone is comprised of limestone and shale. A small area of **Waltersburg Sandstone** and **Vienna Limestone** occurs west of centerline along the northwestern leg of some of the corridors. The Waltersburg Sandstone is comprised of sandstone, siltstone, and shale. The Vienna Limestone is comprised of limestone and shale.

Please reference the attached Sheets A through D, US 641 – Proposed Corridors Geology. Also, please reference the attached Geology Column drawings for descriptions of the applicable geologic units.

The local dip varies by quadrangle and generalized dips within the project areas are listed below:

<u>Quadrangle</u>	<u>Dip Direction</u>	<u>Dip (percent)</u>	<u>Dip (feet per mile)</u>
Fredonia - South of Tabb Fault System	Northeast or East	0.6-2	30-100
Fredonia - North of Tabb Fault System	Southwest	3-5	150-280
Eddyville	North	2	120
Grand Rivers	North-Northwest	1	60
Princeton West	North	2	120

Typically, groundwater flow is in the dip direction until it reaches daylight where it would then flow downhill to the valley bottoms and creeks. However, in Karst areas the groundwater system consists of underground conduits, caves, and underground streams.

Closed depressions (sinkholes), caves, and other underground indications of Karst topography are common in areas underlain by potentially soluble bedrock such as limestone and dolomite. According to a generalized Karst map of Kentucky published by the Kentucky Geological Survey, the project area is characterized as an area of high potential for Karst. The map indicates that the project area is underlain by pure limestone in which Karst is well developed. No detailed maps of Karst activity are available for this specific area.

Numerous closed depressions are noted on the Fredonia topographic and geologic quadrangle maps. It appears that they are highly concentrated within the Fredonia Valley area. A few closed depressions were noted near the northwest corner of the Eddyville topographic and geologic quadrangle maps. The closed depressions occurred at elevations ranging from 380 to 460 feet MSL, with the majority occurring in the 410 to 450 feet range. No closed depressions are noted within the project areas on the Grand Rivers or Princeton West topographic or geologic quadrangle maps.

Two major fault zones were identified on the geologic maps. One unnamed fault zone lies along the southern edge of the project area. These faults are northeast-southwest trending. The Tabb Fault System is an east-west trending series of faults less than 1 mile north of Fredonia. The Tabb Fault System is labeled on both the topographic and geologic maps (both Sheet D). It is advisable for the corridors to cross faults perpendicularly. Each of the proposed corridors crosses the faults at nearly perpendicular angles.

Review of USGS Maps for Mining Activities

We also reviewed the USGS topographic and geologic maps for each of these quadrangles looking for mine adits (openings) or other signs of mining activities.

The review of the USGS **topographic maps** for each quadrangle revealed the following data:

Fredonia Quadrangle – no adits observed, one quarry observed
Eddyville Quadrangle – no adits or quarries observed
Grand Rivers Quadrangle – no adits or quarries observed
Princeton West Quadrangle – no adits or quarries observed

The review of the USGS **geologic maps** for each quadrangle revealed the following data:

Fredonia Quadrangle – one mine shaft observed, one quarry observed
Eddyville Quadrangle – no adits or quarries observed
Grand Rivers Quadrangle – no adits or quarries observed
Princeton West Quadrangle – no adits or quarries observed

Previous Surface Mining

Based on our review of the topographic and geologic maps, no strip mining has occurred within the proposed construction area. However, there is an active rock quarry located southeast of Fredonia on the east side of US Highway 641.

We met with quarry personnel to discuss their mining activities. The quarry mines limestone in an open pit configuration. Presently, the quarry bottom is about 100 to 110 feet below the existing ground level. No deep mining is proposed in this quarry.

Previous Deep Mining

The Kentucky Department of Mines and Minerals in Frankfort, Kentucky has published public records for underground coal mining. This data is available on the internet at the web site minemaps.ky.gov. No data is available for the proposed project area.

We also contacted the Kentucky Department of Mines and Minerals in Frankfort, Kentucky to verify that coal was not present within the project area. Mr. Dan O'Canna verified that there are no records of coal mining within the applicable quadrangles. Our review of the geologic quadrangles did not reveal the presence of coal within the project area except for the possibility of coal within the Hardinsburg Sandstone. The Hardinsburg Sandstone occurs as an east-west trending band along the north side of the Tabb Fault System north of Fredonia.

There is a mine shaft symbol located north of Fredonia, along the Tabb Fault System. We have indicated this symbol on both the topographic and geologic maps (both Sheet D). We believe

that this mine shaft symbol is indicative of a fluorspar deep mine within this area. Although the mine shaft symbol is located outside of the corridor boundary, it is likely that deep mining may have occurred within the project area. According to the *Economic Geology* section of the Fredonia geology quadrangle, fluorspar mining has occurred along the Tabb Fault System. Mining occurred between the late 1890's and the 1950's; therefore, no mining maps are readily available for these areas. None of the mines in the quadrangle is now active. Lead contamination of soil and/or water is a concern due to the processing of the fluorspar ore.

Gas and Oil Wells

Gas and oil wells (active and abandoned) have been mapped based on available public records. However, this data indicates that there are no active oil or gas wells within any of the eight proposed corridors. One abandoned well is located west of Eddyville along the edge of Alternates 3 and 3A. Three abandoned wells are located near the end of the project, north of US Highway 641 and west of Kentucky Highway 902. Please reference the attached *Sheets C and D, US 641 – Proposed Corridors* for details.

Geotechnical Issues

Our field reconnaissance was confined to public right-of-ways in and around the eight proposed corridors. Because some corridors (or portions thereof) are located on private property, they were inaccessible.

Based on our visual observations of the project area and our review of available mapping, we have noted three geotechnical issues which could impact the proposed construction.

Karst activity – Numerous sinkholes were noted in the northern and eastern portions of the project area. Typically, these sinkholes lie within the Fredonia Valley. The majority of the bedrock underlying the Fredonia Valley is comprised of limestone capped with 5 to 10 feet of sandstone. However, where the sandstone cap is absent there is considerable Karst activity as evidenced by the numerous sinkholes within this area. In general, the entire Fredonia Valley is in a high risk of Karst activity area.

An existing quarry (Fredonia Quarry) is located southeast of Fredonia along the east side of the existing US Highway 641. This quarry is an open pit mining operation which is currently about 110 feet below the existing grade. Several of the proposed corridors pass near the existing quarry. Mineral rights may have been split from the surface land ownership in this area. Additionally, blasting for road cuts near the quarry may present some concern for the miner's safety.

We did not observe the four abandoned wells during our review of the project area. Again, oil and gas rights may have been split from the surface land ownership in this area. Since there are no active wells within the project area, we do not believe that this will be a major issue for the project. However, future wells present constructability (blasting, etc.) and monetary issues.

An abandoned mine shaft was observed on the geologic map north of Fredonia. We believe that this mine shaft is a remnant of fluorspar mining activities in the general vicinity. Although the mine shaft is not located within the proposed corridors, there could be underground mining located within the proposed corridors. During the processing of fluorspar, the generation of lead is a byproduct. As such, there is a likelihood of soil or water contamination due to the processing of the fluorspar.

Conclusions

From a geotechnical and constructability standpoint, we believe that the selected corridor should avoid certain problem areas or potential geotechnical problems discussed above. The project faces constructability issues (i.e. – sinkholes) which are inherent to the local terrain. These issues cannot be eliminated; however, sound engineering solutions are available to address them.

We believe that the most favorable corridor should avoid construction along the existing US Highway 641 and the railroad track north of Fairview. Additionally, we believe that the most favorable corridors should avoid closed depressions (sinkholes) by proper alignment selection. From a constructability standpoint, the most favorable corridors should be in the flatter terrain to reduce the amount of cutting and filling required. Additionally, shallower cuts and fills lessen the likelihood of cut or fill slope instability problems.

Based on our evaluation of the eight proposed corridors, we have listed them in order from most desired to least desired. Portions of each route are located within Karst areas. Remediation of Karst areas can quickly become expensive; therefore, it is best to avoid areas underlain by Karst activity. In general, the ranking of the following corridors also ranks the likelihood of encountering Karst activity. The ranking of the following corridors also ranks the amount of overlap of the existing US Highway 641. Houses and numerous underground utilities are located along this existing highway, both of which will greatly impact the constructability and cost of the project.

We have ranked the eight corridors and listed our major comments for each of the proposed corridors.

Alternate 3 (Green) – This route is least likely to encounter Karst terrain. It includes more hilly terrain and is generally longer than the following corridors. The area to the west of Eddyville appears to be more populated than other rural areas. The corridor does not involve the existing railroad track or any portion of the existing US 641.

Alternate 4 (Yellow-Pink-Green) – This route includes some hilly terrain in the yellow section and lies within sparsely populated areas. The corridor does not involve the existing railroad track; however, it will cross the existing US 641 at one location.

Alternate 2 (Pink-Green) - This route involves a major portion of the existing US Highway 641 and a railroad crossing (i.e. – bridge) just north of Fairview. However, a large portion of this route avoids probable Karst areas.

The following routes involve the gold corridor (which is the highest probability for Karst activity), although to different degrees.

Alternate 4A (Yellow-Blue-Gold) – This route involves a minor portion of the existing US Highway 641. The corridor does not involve the existing railroad track.

Alternate 3A (Green-Blue-Gold) - This route involves a significant portion of the existing US Highway 641. The corridor does not involve the existing railroad track.

Alternate 2A (Pink-Blue-Gold) - This route involves a major portion of the existing US Highway 641 and a railroad crossing (i.e. – bridge) just north of Fairview.

Alternate 1A (Gold-Yellow-Green) – This route will cross the existing US 641 at one location. The corridor does not involve the existing railroad track. This route travels through rolling hills and sparsely populated areas.

Alternate 1 (Gold) – This route will impact the existing US 641 at one location, near the Fredonia Quarry. The corridor does not involve the existing railroad track. This route travels through rolling hills and sparsely populated areas.

Recommendations

The following general recommendations are applicable to the selected corridor:

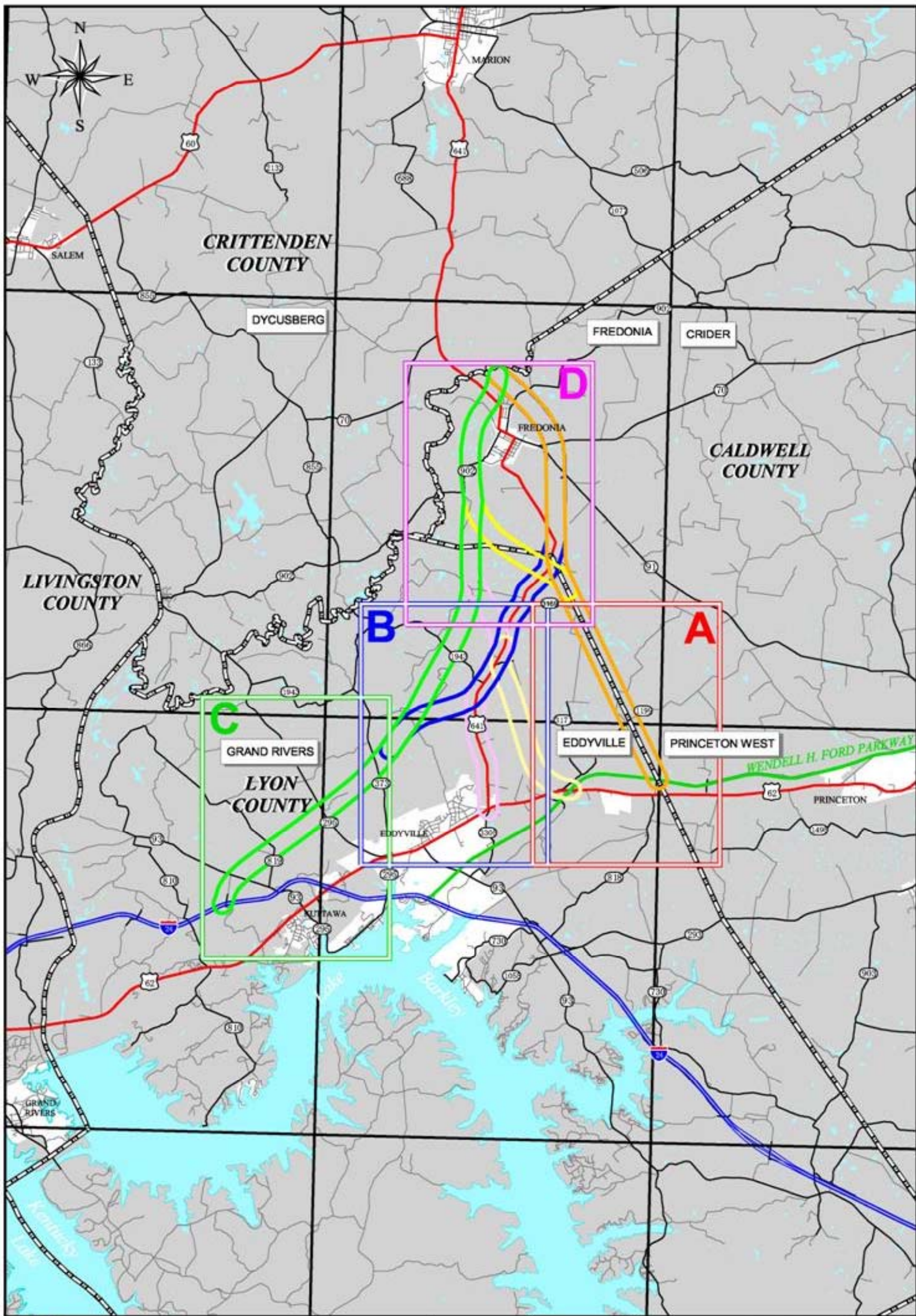
1. We expect that the cut soils will be used as fill material for this project. We also expect some rock excavation in deep cut areas. Based on the local geology, we anticipate that the soil will be low to high plasticity mixtures of silt and clay. Chert fragments will also be likely. We expect the rock from deep excavations to consist of limestone, shale, or sandstone. Soil or shot rock fill should be placed according to requirements as specified in the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction (latest edition).
2. Shrink/swell of newly placed fill should not be of significant concern in most areas. Newly placed fill will need to be placed with proper moisture control and compactive effort. However, consolidation of soft, alluvial soils near the valley bottoms may present some settlement concerns for embankments or for box culverts or other drainage structures. Undercutting and stabilization of soft/wet alluvial soils will likely be required when the roadway crosses alluvial areas.
3. We expect that the majority of the cutting and filling of the proposed corridor will be in soil. Therefore, we expect the majority of the cut and fill slopes to be in soil. For preliminary planning purposes only, expect 2.5H:1V (horizontal to vertical) cut and/or fill slopes. Obviously, no geotechnical work has been performed for this project. Shear strength testing of residual and compacted fill soils will be required so that specific cut and fill slope recommendations can be presented. Rock toe buttresses may be required at the toe of fill slopes in deep alluvial soil areas.
4. Depending upon the final selected grades, we expect a few cut slopes in rock. Cut slopes in massive, durable sandstone or limestone are typically stable on cut slope angles greater than ¼H:1V. Cut slopes in durable shale, poor limestone, or fractured sandstone are typically less stable and require cut slope angles at ½H:1V. Cut slopes in non-durable shale will require even flatter cut slopes – typically flatter than ½H:1V. Pre-splitting will likely be required below the rock disintegration zone (RDZ). An overburden bench and flattened cuts slopes will be required above the RDZ. Obviously, no geotechnical work has been performed for this project. Rock coring and a geologic evaluation will be required before specific cut slope recommendations can be presented.
5. Groundwater seeps or springs should be expected in down-dip cut areas, especially those cuts that intersect the soil/rock interface. Special construction considerations will likely be

required to collect and pipe groundwater in these areas if significant groundwater flows are anticipated or encountered.

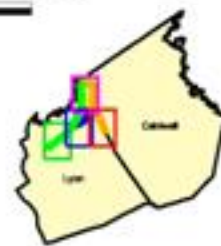
6. We expect that low to high plasticity soil will be used for the majority of the roadway subgrade. Chemical stabilization of the soil subgrade should be expected for this project. The roadway subgrade could be constructed with durable rock if a more stable road base is desired. Depending upon the final selected grades, some shot rock fill may be available as fill material. The local geology suggests that there may be some durable limestone or sandstone available within certain portions of the proposed corridor; however, we doubt that there will be sufficient volume to provide a durable rock roadbed without importing additional material.

7. We expect box culverts (or other minor structures) can be founded on shallow foundations bearing on either stiff soil or rock. We expect bridge foundations will need to bear on rock, either shallow foundations on rock or through driven steel piling or drilled shafts. The presence of Karst activity will complicate the installation of rock bearing foundations. Some modifications of designed foundations are anticipated if pinnacled rock and/or voids are detected in the rock beneath the foundations. In addition, large chert boulders can be present in the soil mass that can deflect driven piles. A detailed geotechnical exploration is warranted in Karst areas to assess the foundation bearing conditions.

8. The project site is located in western Kentucky about 100 miles east of the New Madrid Fault Zone. Seismic loads are presented in the Kentucky Building Code (2002 Edition), Table 1608.2, page 232 for Caldwell County and page 233 for Lyon County. In general, the project area is located in a seismic zone which indicates moderate to severe damage to structures during large earthquake events.



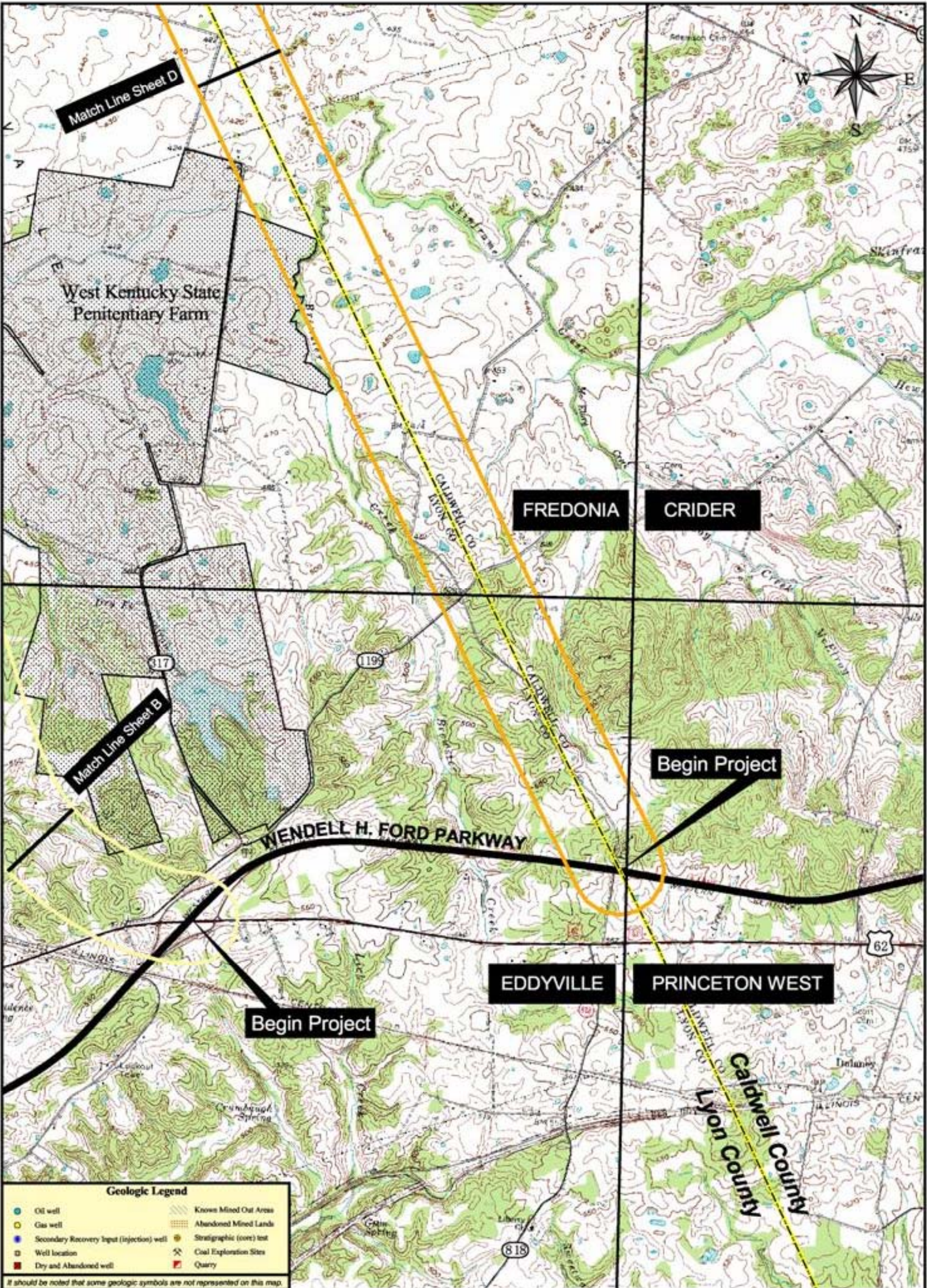
-  Index Blocks
-  Interstates
-  Parkways
-  US Highway
-  State Roads
-  Local Roads



US641 - Proposed Corridors
(Eddyville to Fredonia)

Index Map

Lyon and Caldwell Counties



Geologic Legend

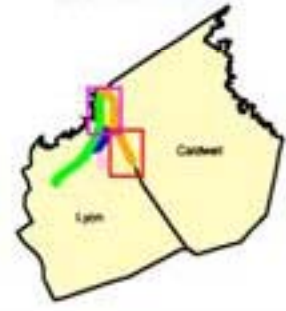
Oil well	Known Mined Out Areas
Gas well	Abandoned Mined Lands
Secondary Recovery Input (Injection) well	Stratigraphic (core) test
Well location	Coal Exploration Sites
Dry and Abandoned well	Quarry

It should be noted that some geologic symbols are not represented on this map.

LEGEND
(Corridors oriented south to north)

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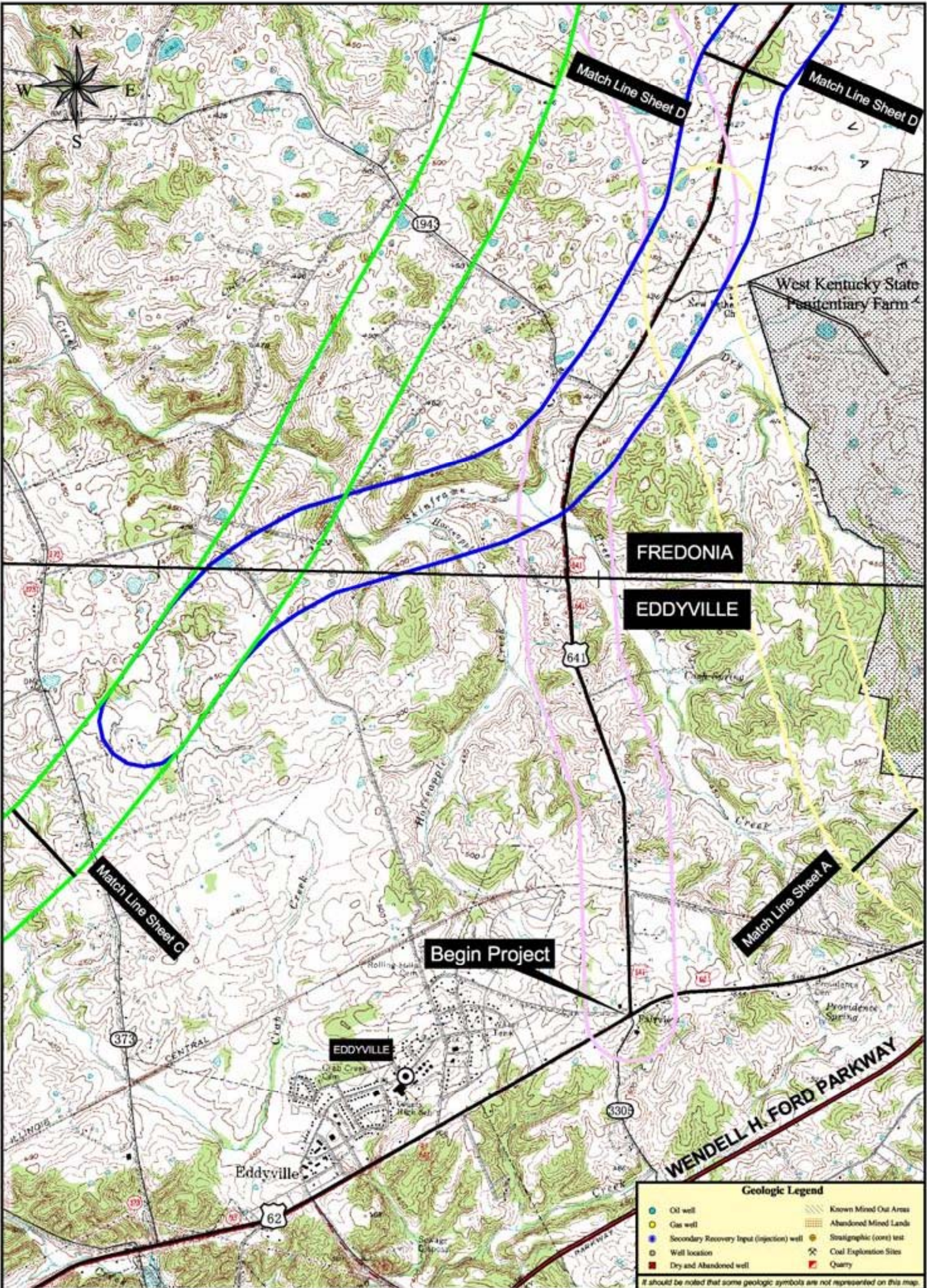


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US 641 - Proposed Corridors
(Eddyville to Fredonia)

Sheet A

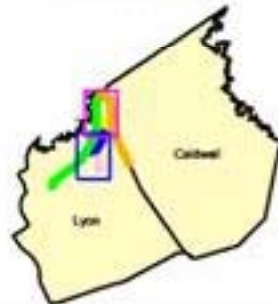
Corridor Study
Lyon and Caldwell Counties



LEGEND
(Corridors oriented south to north)

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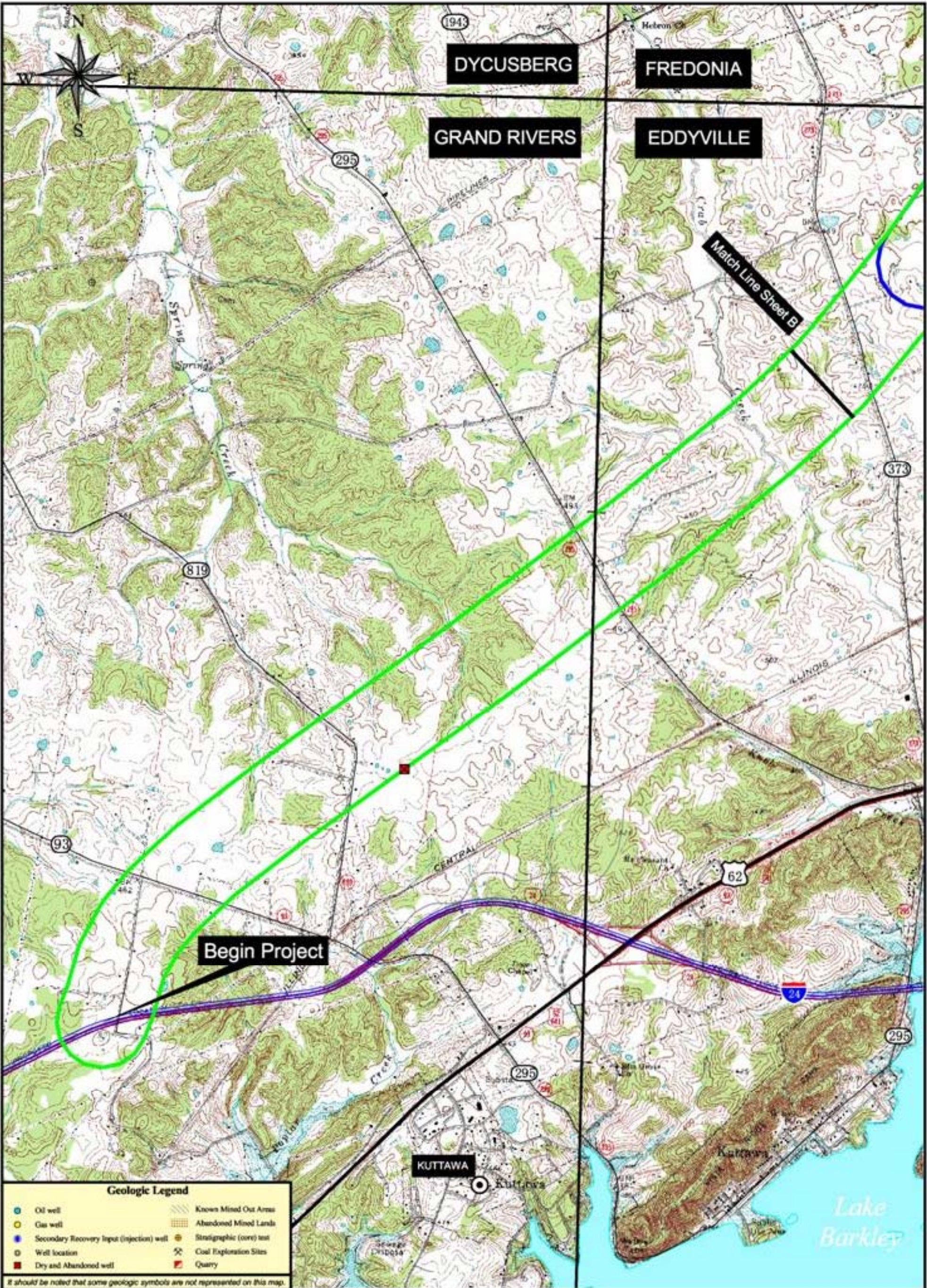


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US 641 - Proposed Corridors
(Eddyville to Fredonia)

Sheet B

Corridor Study
Lyon and Caldwell Counties



Geologic Legend

Oil well	Known Mined Out Areas
Gas well	Abandoned Mined Lands
Secondary Recovery Input (injection) well	Stratigraphic (core) test
Well location	Coal Exploration Sites
Dry and Abandoned well	Quarry

It should be noted that some geologic symbols are not represented on this map.

LEGEND
(Corridors oriented south to north)

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- ALT. 2	- ALT. 4
- ALT. 2A	- ALT. 4A

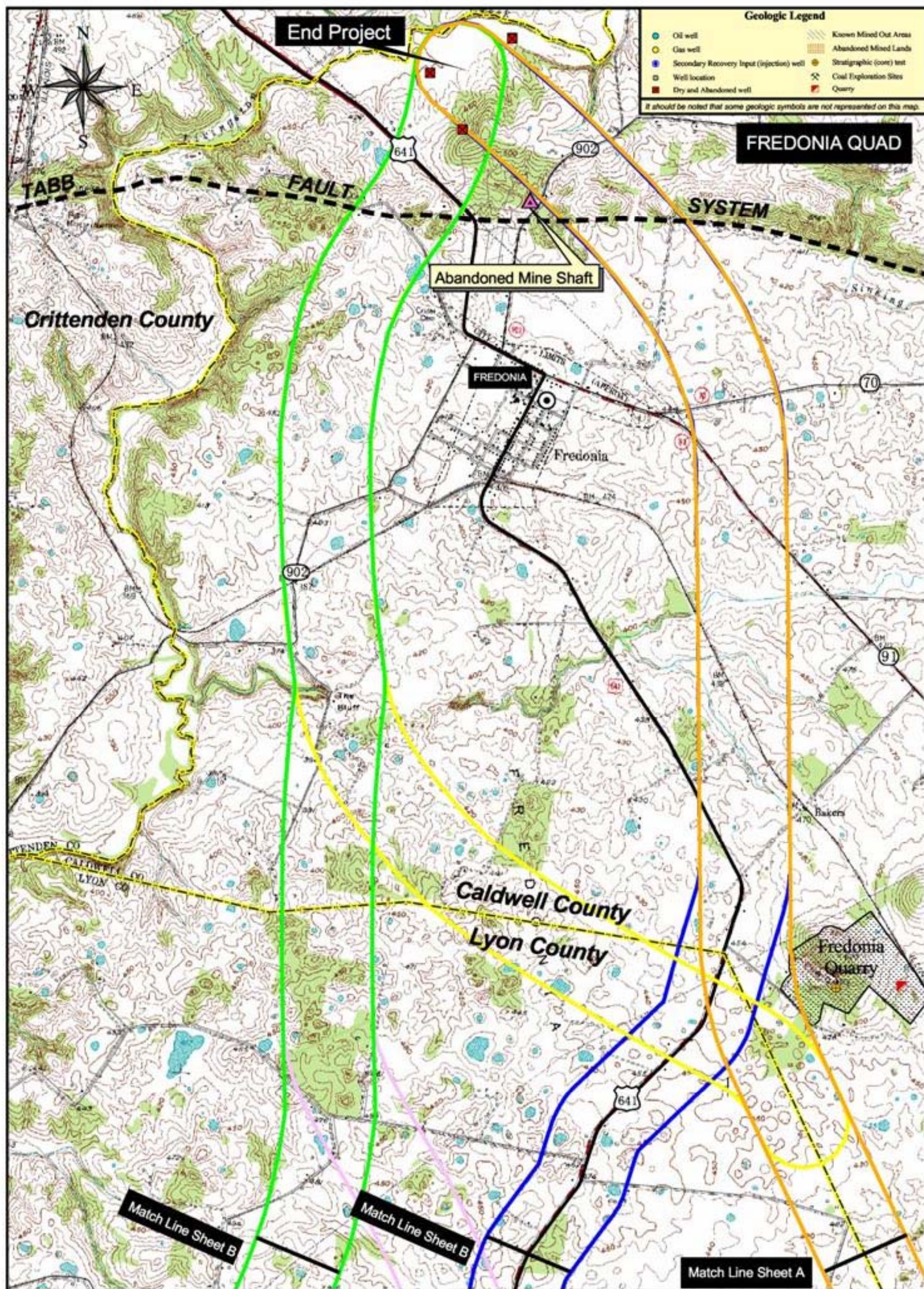
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US 641 - Proposed Corridors
(Eddyville to Fredonia)

Sheet C

Corridor Study
Lyon and Caldwell Counties

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Geologic Legend

Oil well	Known Mined Out Areas
Gas well	Abandoned Mined Lands
Secondary Recovery Input (injection) well	Stratigraphic (core) test
Well location	Coal Exploration Sites
Dry and Abandoned well	Quarry

It should be noted that some geologic symbols are not represented on this map.

FREDONIA QUAD

Match Line Sheet B

Match Line Sheet B

Match Line Sheet A

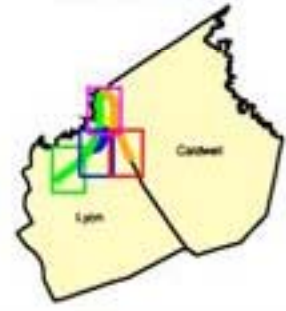
LEGEND
(Corridors oriented south to north)

SCALE: 1" = 2000'

US 641 - Proposed Corridors
(Eddyville to Fredonia)

Sheet D

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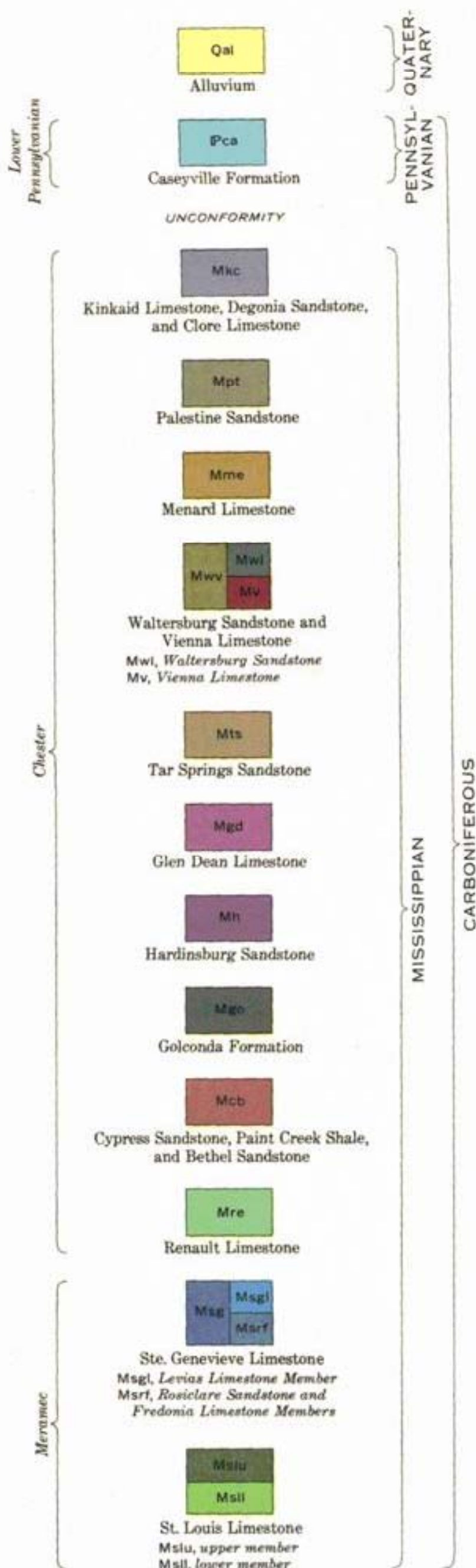
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Corridor Study
Lyon and Caldwell Counties

SYSTEM	SERIES	FORMATION AND MEMBER	LITHOLOGY	THICKNESS, IN FEET	DESCRIPTION
QUATERNARY	Recent	Alluvium		0-10	Clay, silt, sand, gravel, and chert rubble.
	Pleistocene	Loess		0-5	Silt and clay; yellowish-brown, wind-deposited; once blanketed entire area, partially removed by erosion, now remains principally on hilltops and gentle slopes. Not mapped.
PENNSYLVANIAN	Lower Pennsylvanian	Caseyville Formation		40+	Sandstone, very light gray and light-brown to reddish-brown; locally heavily iron stained; fine to medium grained, well sorted, generally clean and porous. Locally contains light-gray clay flakes and blebs, firm to friable, thick to thin bedded. Thinner beds generally ripple marked and more firmly cemented. Impressions of bark of scale tree <i>Lepidodendron</i> locally abundant. Probably some gray shale interbedded. Poorly exposed.
		Upper member		0-40	
		Middle member		0-40	Shale, siltstone, and sandstone: Shale, medium- to dark-gray, variably sandy or silty; locally contains small siderite nodules, especially near base of unit. Siltstone, very light gray; 1- to 2-inch irregular beds, some of which contain abundant impressions of the large horsetail rush <i>Calamites</i> ; occurs locally in units as much as 15 feet thick. Sandstone, light-brown to light-gray, very fine grained, very thin bedded, ripple-marked; interbedded and intergraded with shale. Poorly exposed. Unconformity at base.
				40-50	
		Lower member		40	Limestone, medium- to light-gray, very coarse to fine-grained; consists of calcarenite, composed largely of crinoid fragments, interbedded with and intergrading to microgranular limestone with sparse fossil debris. Generally contains sparse layers of flattened nodules of very dark gray chert as much as 6 inches thick. Locally removed by pre-Caseyville erosion. Well exposed in two places on north side of Moore Hill.
				35-40	
		Degonia Sandstone		30	Limestone, dolomitic limestone, dolomite, and shale: Limestone, medium- to dark-gray, microgranular, locally argillaceous or sandy. Dolomitic limestone and dolomite, very light gray, very finely granular. Interbedded shale, medium- to dark-gray. Poorly exposed.
		Clore Limestone		90-100	Sandstone and shale: Sandstone, light-gray to tan, very fine to fine-grained, well sorted, very thinly crossbedded; and sandstone, brown, very fine to medium-grained, argillaceous; contains abundant shale partings and clay pebbles, locally heavily iron stained. Shale, medium- to dark-gray, interbedded. Poorly exposed.
					Limestone, medium- to dark-gray, microgranular, with sparse to abundant fossil fragments. Partly argillaceous or with shaly partings. Brachiopods and gastropods locally abundant. Unit contains interbeds of calcarenite, medium- to dark-gray, fine- to very coarse grained, well sorted and clean to poorly sorted and argillaceous. Poorly exposed.
		Palestine Sandstone		50-60	Sandstone, siltstone, and shale: Sandstone, dark-greenish-gray, very fine grained, argillaceous, hard; and light-greenish-gray, very fine to fine-grained. Siltstone, greenish-gray; has closely spaced shaly partings. Shale, greenish-gray, interbedded; locally sandy, near base slightly calcareous. Unit poorly exposed.
		Menard Limestone		105-120	Limestone and shale: Limestone, medium- to dark-gray, microgranular; some coarse-grained calcarenite near base; some sandy beds, especially near base and top, some other beds dolomitic or argillaceous. Contains sparse crinoidal and other fossil fragments; brachiopods, as much as 1½ inches wide, irregularly distributed, locally abundant in thin layers. Shale, medium- to greenish-gray, partly calcareous. Scattered exposures of lower half of formation in north-central part of quadrangle; upper half poorly exposed.
					Sandstone and shale: Sandstone, light-gray, yellowish-gray, grayish-orange, or light-brown, very fine to fine-grained, partly silty, quartzose, porous, thinly crossbedded to thick-bedded, generally with shaly partings. In part, clean sandstone grades laterally to shaly sandstone and sandy shale. Shale, dark-gray to greenish-gray, generally sandy and very silty. Sandstone outcrops fairly numerous.
		Waltersburg Sandstone		20-40	Limestone and shale: Limestone, medium- to dark-gray, some brownish-gray; microgranular to fine grained with sparse to abundant fossil fragments. Some limestone argillaceous or shaly, locally dolomitic, bedding thin and irregular to thick and even. Locally contains abundant brachiopods, as much as 1½ inches wide, and abundant gastropods. Small chert nodules rare. Beds of medium- to very coarse grained calcarenite composed of fossil fragments or oolites, commonly with many grains stained orange brown, cemented by microcrystalline or clear calcite, occur locally near top of formation. Outcrops fairly numerous. Shale, medium- to dark-gray, partly fossiliferous or calcareous, interbedded.
Chester		Vienna Limestone		20	Sandstone, siltstone, and shale: Sandstone and siltstone, greenish-gray to light-brown, very fine grained, argillaceous, very hard to firm, slightly carbonaceous or calcareous locally; bedding is generally very thin and irregular with abundant closely spaced wispy shaly partings; bedding surfaces mostly rough and hackly, locally smooth. Some beds, especially harder ones, weather into small rhombohedron-like blocks. Shale, dark-gray, fissile, locally sandy and very silty. Small siderite nodules rare.
		Tar Springs Sandstone		90-120	Limestone and shale: Limestone, medium-gray, some light-gray and brownish-gray; consists of medium- to very coarse grained crinoidal calcarenite cemented with clear calcite, interbedded with microcrystalline limestone containing sparse to common fossil fragments. Chert common as thin irregular nodules or rounded nodular layers as much as 4 inches thick. Shale, dark-gray, fissile, mainly calcareous, fossiliferous. Unit weathers to reddish-brown clay generally containing abundant angular blocks of crinoidal chert.
		Glen Dean Limestone		40-50	Sandstone, shale, and siltstone: Sandstone, very light gray, grayish-orange, and dusky-yellow, mostly very fine grained, partly fine, generally quartzose, locally argillaceous. Beds 2 inches to a foot thick; many shaly partings; laminae, cross-laminae, and ripple marks locally abundant. Shale, medium- to dark-gray, commonly with green or olive tint, noncalcareous; commonly includes laminae and thin beds of sandstone and siltstone and locally includes nodules and layers of brown-weathering siderite. Siltstone, medium-gray; locally replaces sandstone in middle of formation. Sandstone at base commonly crops out.
					Limestone and shale: Limestone (calcarenite), medium-dark- to medium-light-gray, mostly fine- to coarse-grained; includes a little microgranular limestone; shaly in part; fossiliferous. Shale, medium- to dark-gray, locally with green tint, mainly calcareous; commonly inter-layered with limestone. Outcrops rare.
		Hardinsburg Sandstone		130-150	Sandstone and shale: Sandstone, mostly very light to light-gray, very fine to fine-grained, quartzose. Beds thick near base, thin to medium above; crossbeds common. In upper part of formation, much sandstone is greenish gray, partly silty, somewhat micaceous, with many shaly, micaceous partings; laminae and cross-laminae locally prominent. Shale, medium- to dark-gray, partly with green tint, locally reddish-gray near top; commonly includes laminae and lenses of sandstone and siltstone; partly calcareous at top. As much as 2 feet of coal locally near middle of formation; thinner beds rare at other levels. Lower sandstone commonly crops out. Base of formation slightly disconformable.
					Shale, limestone, siltstone, and sandstone: Shale, medium- to dark-gray, partly with green tint, locally reddish-gray near middle and top, partly silty, partly calcareous; some siderite nodules. Limestone, medium- to medium-light-gray, very fine to coarse-grained, mostly calcarenite, partly shaly; some oolitic limestone near middle and top; locally fossiliferous; commonly interbedded with shale. Medium-dark- to light-gray siltstone and silt shale and light-gray very fine grained sandstone form evidently discontinuous layers as thick as 25 feet near middle of formation. Outcrops rare. Locally thinned by shearing near faults.
Point	Point	Cypress Sandstone		90-120	Sandstone, shale, and siltstone: Sandstone, very light to light-gray and grayish-orange; mostly very fine to fine-grained, partly medium-grained near base; quartzose; locally calcareous. Beds mostly medium to thick. Shale, medium-gray to black, partly with green tint, non-calcareous; forms thin partings and beds in upper half of formation. Interval near middle of formation consists of partly sandy shale, siltstone, mudstone, silty and muddy sandstone, and discontinuous coal beds. Coal generally 1 to 2 feet thick, rarely as thick as 4 feet. Outcrops uncommon except in lower sandstone.



EXPLANATION



ECONOMIC GEOLOGY

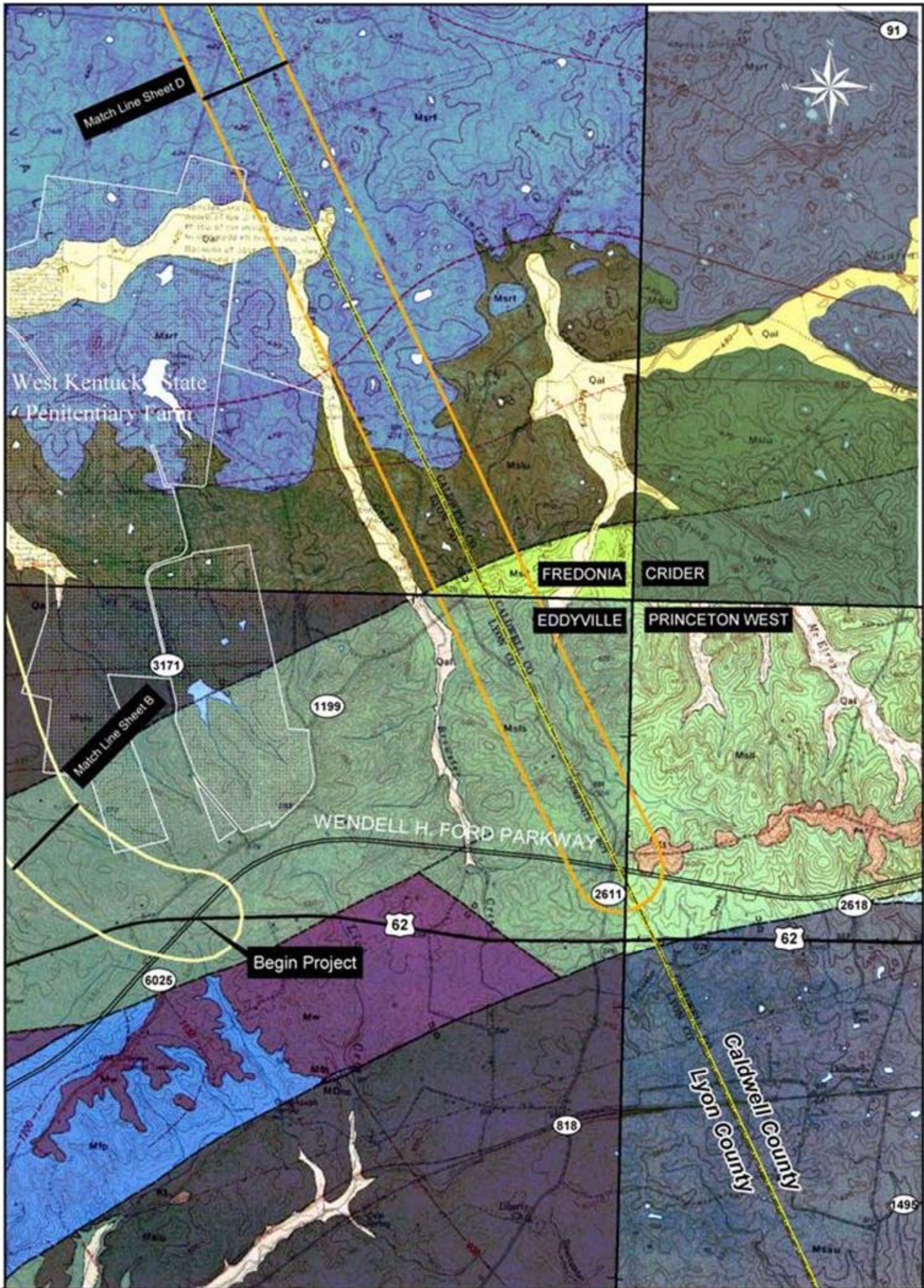
This quadrangle includes part of the southern edge of the Western Kentucky fluorspar mining district. The mines along the Tabb Fault system west of Livingston Creek were among the most productive fluorspar mines in Kentucky. Between the late 1890's and the 1950's, these mines produced several hundred thousand tons of crude ore. Fluorite, the principal ore mineral, is associated with considerable sphalerite, galena, and barite, but fluorite only was recovered by the milling processes used during much of the mining. Most of the barite occurs in the weathered part of ore deposits. Open pits in weathered material produced both barite and fluorite in the Pygmy mine area, southeast of the town of Mexico, from the 1950's until 1964. None of the mines in the quadrangle is now active.

Fault zones, generally much more complex than can be shown on this map, contain most of the ore deposits. Most large deposits have been found where the wall rock consists of the St. Louis and Ste. Genevieve Limestones or lower Chester limestone units.

The Fredonia Valley quarry, in the east central part of the quadrangle, produces high calcium limestone, agricultural limestone, and crushed limestone aggregate from the middle of the Fredonia Limestone Member of the Ste. Genevieve Limestone. Stokley and McFarlan (1952) report two limestone units in this quarry 30 to 36 feet thick that average over 97 percent calcium carbonate. Limestone with similar high calcium carbonate content may occur in this stratigraphic interval to the east-northeast of this quarry along the west side of Nelson Hill and at the northern edge of the quadrangle near Clement Creek.

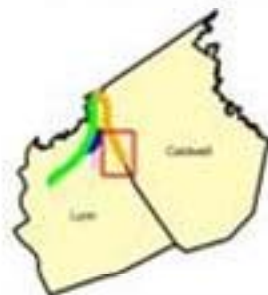
Much of the Palestine Sandstone tends to break into flat-surfaced slabs, 1 to 6 inches thick. It has been quarried northeast of Mexico for local construction of houses.





LEGEND (Corridors oriented south to north)

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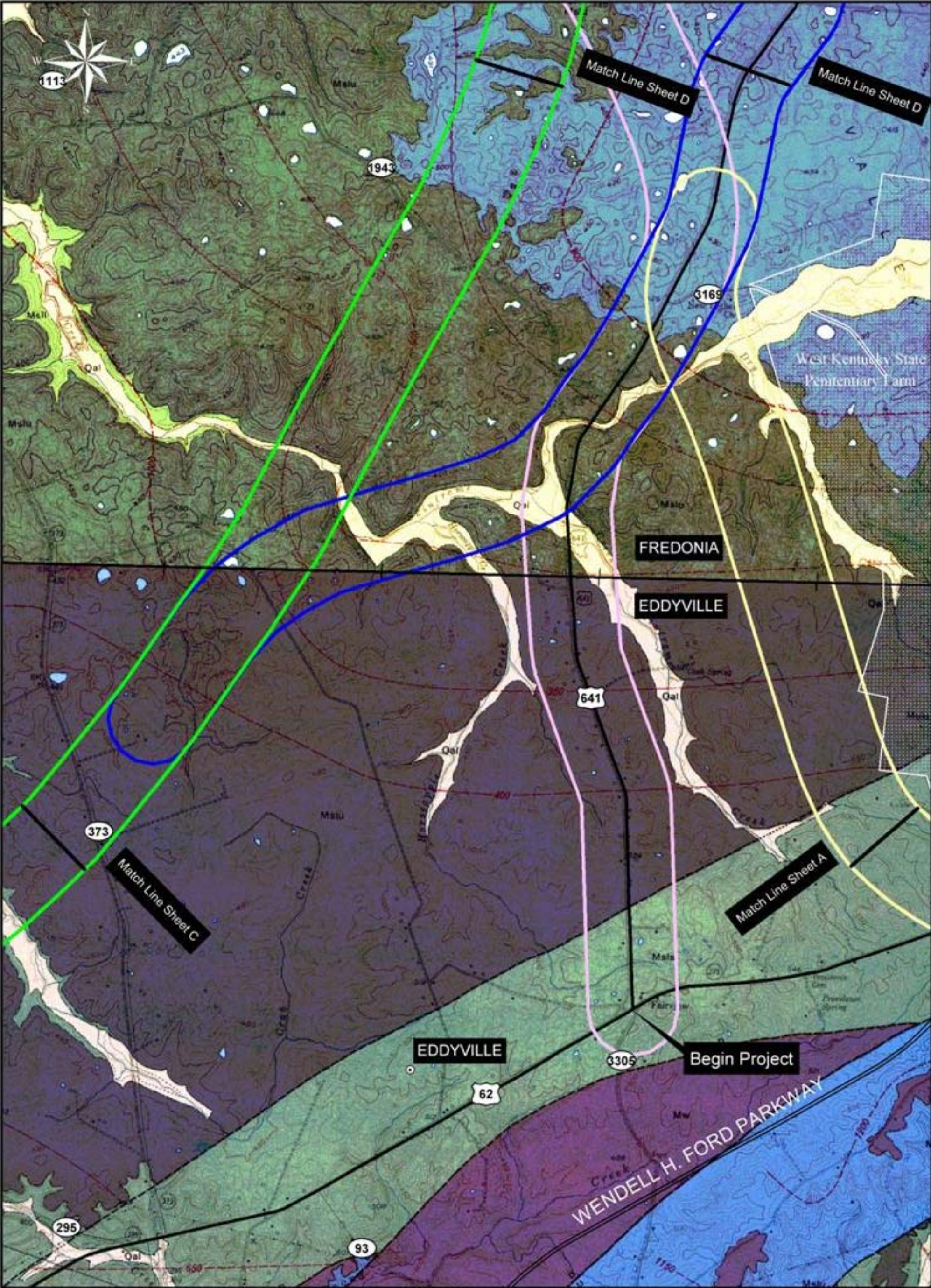


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US 641 - Proposed Corridors Geology
(Eddyville to Fredonia)

Sheet A

Corridor Study
Lyon and Caldwell Counties



LEGEND
(Corridors oriented south to north)

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|  - ALT. 2 |  - ALT. 4 |
|  - ALT. 2A |  - ALT. 4A |

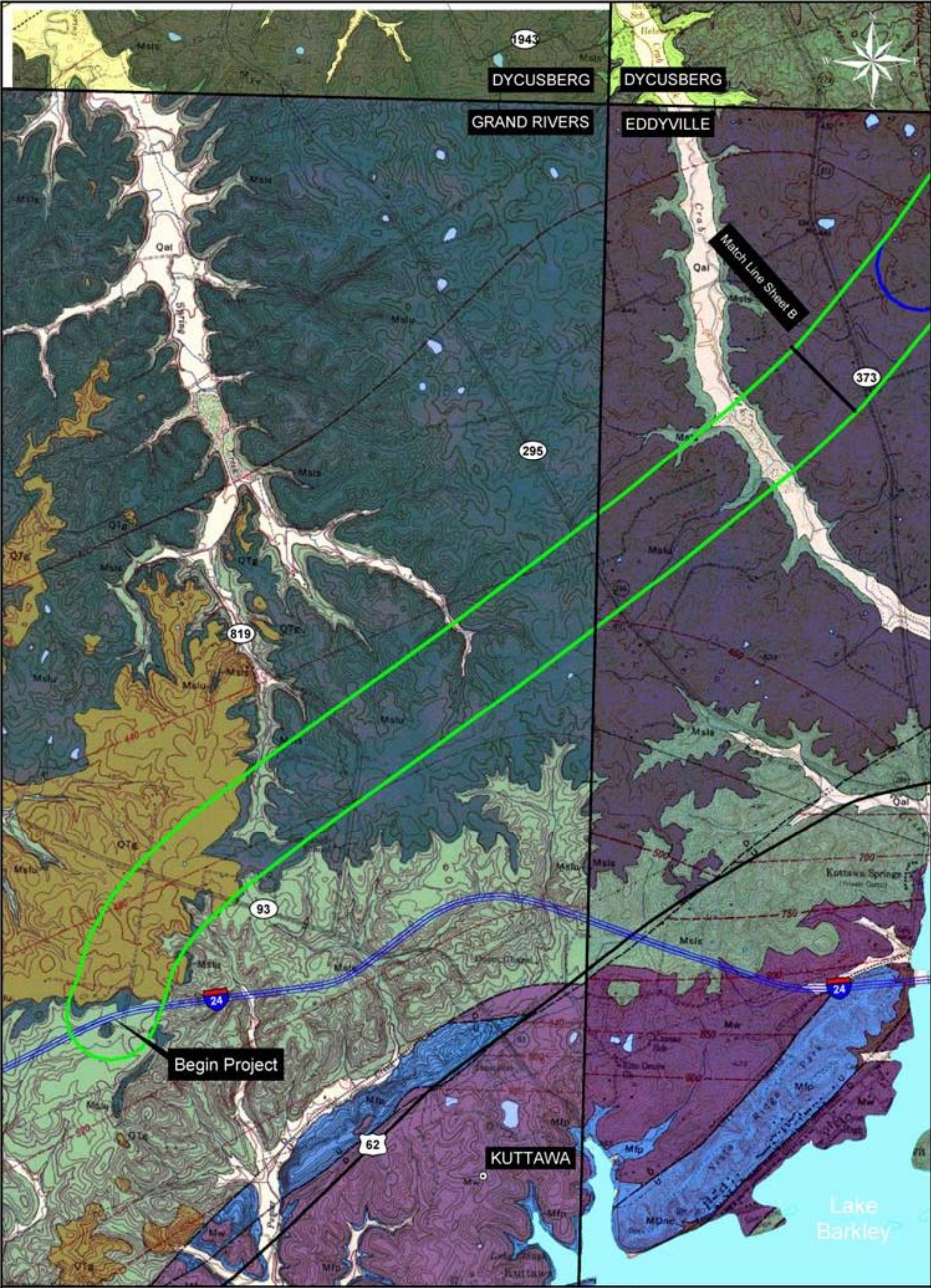


QORE
PROPERTY SCIENCES
423 CODELL DRIVE, LEXINGTON, KENTUCKY 40509
PHONE (859) 293-5518 / FAX (859) 298-2481
QORE PROJECT # 24302831

US 641 - Proposed Corridors Geology
(Eddyville to Fredonia)

Sheet B

Corridor Study
Lyon and Caldwell Counties



LEGEND
(Corridors oriented south to north)

- | | |
|-----------|-----------|
| - ALT. 1 | - ALT. 3 |
| - ALT. 1A | - ALT. 3A |
| - ALT. 2 | - ALT. 4 |
| - ALT. 2A | - ALT. 4A |



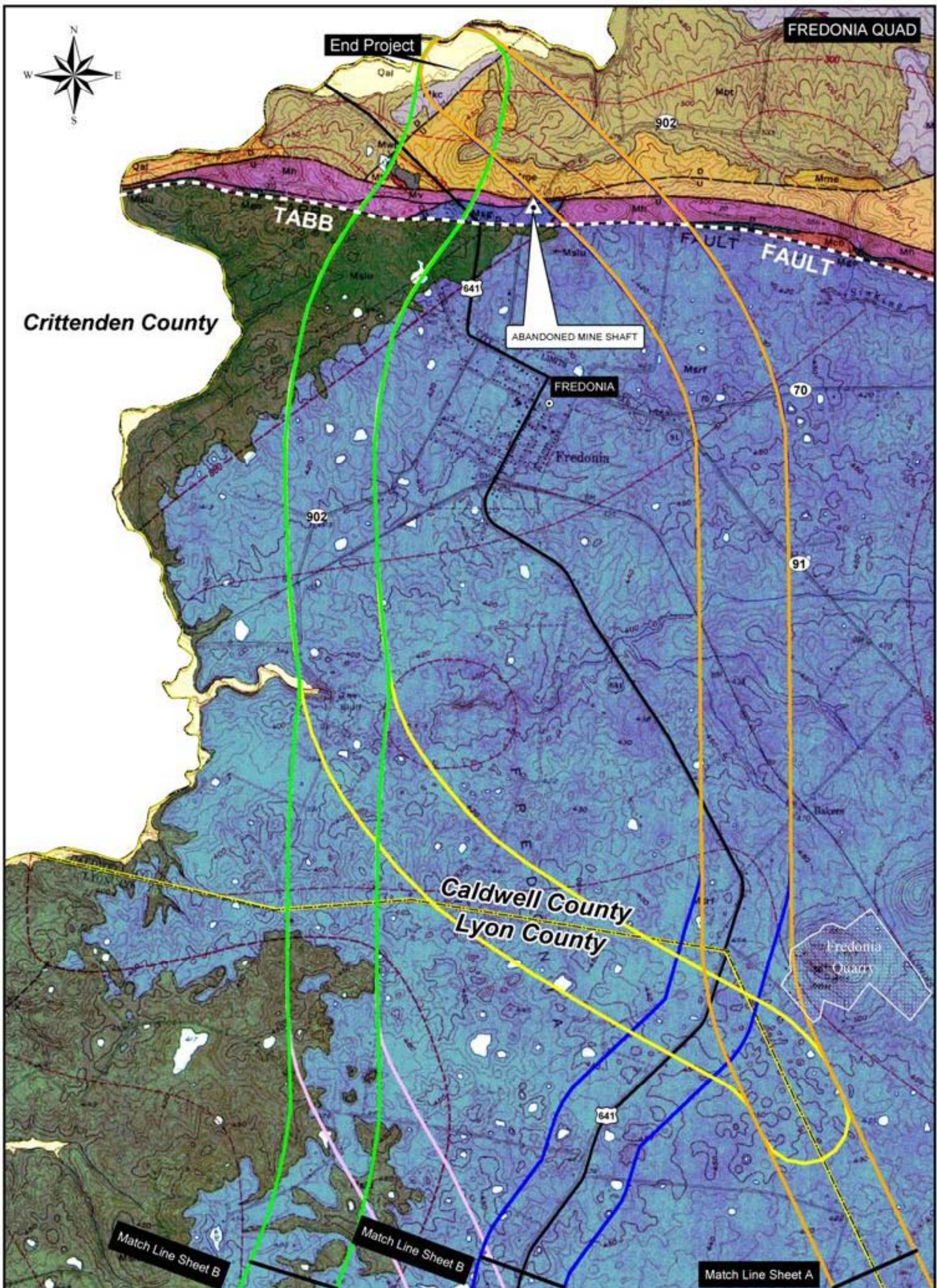
0 2000 4000 6000 Feet
1" = 2000'

QORE
PROPERTY SCIENCES
422 CODELL DRIVE, LEXINGTON, KENTUCKY 40509
PHONE (859) 293-5518 / FAX (859) 299-2481
QORE PROJECT # 34302631

US 641 - Proposed Corridors Geology
(Eddyville to Fredonia)

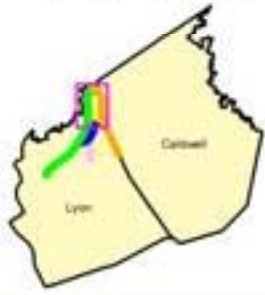
Sheet C

Corridor Study
Lyon and Caldwell Counties



LEGEND
(Corridors oriented south to north)

- | | | | |
|--|-----------|--|-----------|
| | - ALT. 1 | | - ALT. 3 |
| | - ALT. 1A | | - ALT. 3A |
| | - ALT. 2 | | - ALT. 4 |
| | - ALT. 2A | | - ALT. 4A |



US 641 - Proposed Corridors Geology
(Eddyville to Fredonia)

Sheet D

Corridor Study
Lyon and Caldwell Counties



KENTUCKY TRANSPORTATION CABINET
FRANKFORT, KENTUCKY 40622
WWW.KENTUCKY.GOV

ERNIE FLETCHER
GOVERNOR

MAXWELL C. BAILEY
SECRETARY

September 16, 2004

SEE ATTACHED LIST

«Mailing_Title» «First_Name» «Last_Name»«Suffix»
«Title»
«Organization»
«Address1»
«Address2»
«City» «State» «Zip»

Dear «Letter_Title» «Last_Name»:

Subject: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from
Eddyville to Fredonia

We are requesting your agency's input and comments on a planning study to determine the need and potential impacts for a proposed highway project. The Kentucky Transportation Cabinet has assembled a study team to evaluate the proposed reconstruction or relocation of US 641 from Eddyville in Lyon County to Fredonia in Caldwell County. The study is currently in the initial data-gathering stage and preliminary alternative corridors have been identified.

We ask that you identify specific issues or concerns of your agency that could affect the development of the project. This planning study will include a scoping process for the early identification of potential alternatives, environmental issues, and impacts related to the proposed project. We believe that early identification of issues or concerns can help us develop highway project alternatives to avoid or minimize negative impacts.

We respectfully ask that you provide us with your comments by October 22, 2004, to ensure timely progress in this planning effort.

During the development of this planning study, comments will be solicited from federal, state, and local agencies, as well as other interested persons and the general public, in accordance with principles set forth in the National Environmental Policy Act (NEPA) of 1969. The Federal Highway Administration is partnering with us in these efforts. A copy of a public notice placed in state in local newspapers concerning this project is attached.

Other Transportation Cabinet offices or consultants working on behalf of the Transportation Cabinet may also contact you seeking more detailed data or information to assist them in completing their environmental studies for this phase of the project.

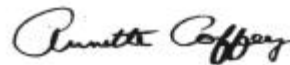
September 15, 2004

We have enclosed the following project information for your review and comment:

- A project brochure, which includes:
 - Preliminary Project Goals
 - Environmental Overview Map
 - Year 2003 Traffic and Level of Service
 - Year 2025 Traffic and Level of Service
 - Vehicle Crash Information
- Proposed Alternative Corridors (Level 2) Map

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Jim Wilson of the Division of Planning at 502/564-7183 or at Jimmy.Wilson@ky.gov. Please address all written correspondence to Annette Coffey, P.E., Director, Division of Planning, Kentucky Transportation Cabinet, 200 Mero Street, Station W5-05-01, Frankfort, KY 40622.

Sincerely,



Annette Coffey, P.E.
Directors
Division of Planning

ACJCW:NH

Enclosures

c: Jose Sepulveda (w/e)
Glenn Jilek (w/e)
Mary Murray (w/e)
Carl Dixon
Dan Bozarth
Craig Morris
Edward Merryman
David Waldner
Tim Choate
Everett Green
Allen Thomas
Kevin McClearn
Jim Simpson
Richard Davis
C. D. Palmer

OTHER PROJECTS

The proposed project addressed in the planning study would connect to another segment of US 641 from Fredonia to Marion that is currently in the design phase. That proposed project would begin on the south side of Marion in Crittenden County, follow a parallel path east of existing US 641, and terminate northwest of Fredonia. The proposed route is being designed as a four-lane roadway with partial control of access (i.e., at-grade intersections at a spacing of no less than 1,200 feet).



KY 62 / US 641 intersection.

ENVIRONMENTAL DATA

Some environmental issues include:

- Quarry operation in Fredonia
- Mill Bluff Spring
- Impact on and access to farmland
- Karst topography



Cemetery with West Kentucky State Penitentiary Farm in background.



Martin Marietta Aggregates Quarry Facility.



Prime farmland along KY 91 in Caldwell County.



New Bethel Church adjacent to US 641, south of Fredonia.

PUBLIC & AGENCY INPUT

Four public meetings are being held during the course of this study. Efforts have also made to coordinate with and get input from local officials, public agency representatives, and others who have a special interest in the project.

The first two public meetings were held in September, 2003, one each in Eddyville and Fredonia, to inform the public about the project and request input on preliminary project issues. The second two meetings, also in Eddyville and Fredonia, are to present information and get input on the proposed alternatives.

To assist in keeping the public and agencies informed, information will be added to the KYTC's Division of Planning website:

<http://transportation.ky.gov/planning/index2.asp>

This website will be updated on a regular basis as new information becomes available.

CONTACT INFORMATION



KENTUCKY
TRANSPORTATION
CABINET

Address written comments to:
Annette Coffey, P.E.

or

Daryl Greer, P.E.

Kentucky Transportation Cabinet
Division of Planning
Station: W5-05-01
200 Mero Street
Frankfort, KY 40622

Or you may contact by phone:

Jimmy Wilson

Project Manager

Kentucky Transportation Cabinet
Division of Planning
(502) 564-7183
Jimmy.Wilson@ky.gov

You may also look for project
information at:

transportation.ky.gov/planning/index2.asp



Wilbur Smith Associates



KENTUCKY
TRANSPORTATION
CABINET

Reconstruction/Relocation of From Eddyville to Fredonia



LYON & CALDWELL COUNTIES

The Kentucky Transportation Cabinet (KYTC) is undertaking an alternatives planning study for the proposed reconstruction/relocation of US 641 from Eddyville in Lyon County to Fredonia in Caldwell County. No funds are available at this time for the design or construction of this project.

The planning study will (1) analyze existing conditions (including transportation, environmental, and socioeconomic issues), (2) estimate future traffic demand, and (3) identify and evaluate potential alternatives for the proposed project. Throughout the planning process, comments, concerns, suggestions, and insight from the general public and local officials will be documented and considered.

The existing US 641 corridor between Eddyville and Fredonia is a two-lane roadway with 10- to 12-foot lanes and varying shoulder widths and types. The posted speed limit is 35 mph in urban areas and ranges from 45 mph to 55 mph in rural areas. US 641 carries an average daily traffic (ADT) volume between 3,080 and 3,400 vehicles per day and provides access south between Fredonia and US 62, I-24, and the Wendell H. Ford (Western Kentucky) Parkway.

PRELIMINARY

project Goals

The following were identified as preliminary goals for the project:

Provide improved regional access along a reconstructed highway or an alternate route that will:

- Allow the designation of the route for the legal operation of 102-inch wide trucks between Eddyville and Fredonia;
- Provide improved access to the National Truck Network and National Highway System to support economic development initiatives in the region; and
- Provide improved access from north of and in the vicinity of Eddyville to regional recreational and tourist areas, including Lake Barkley and Kentucky Lake.

PROJECT ISSUES

There are a number of issues that will be explored as part of this planning study. Some of these issues include:

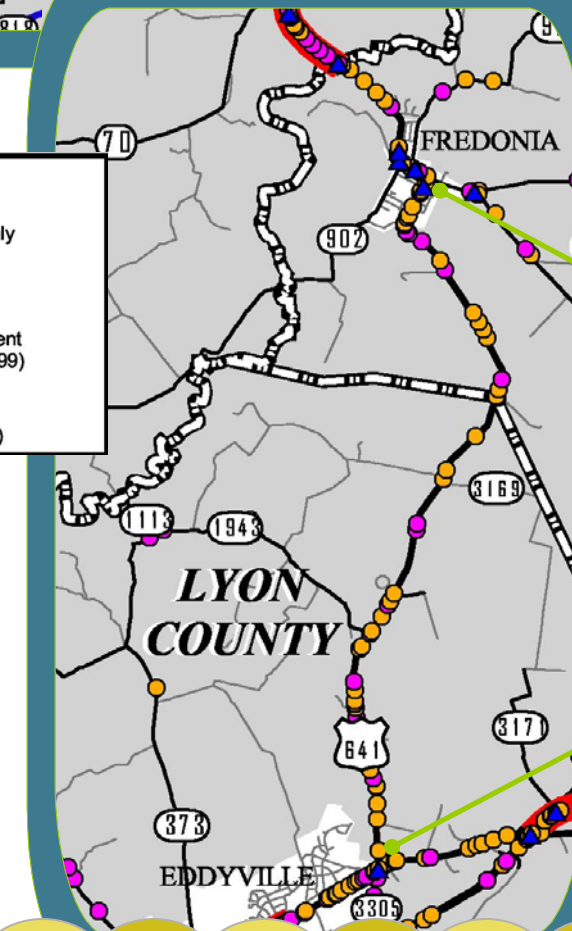
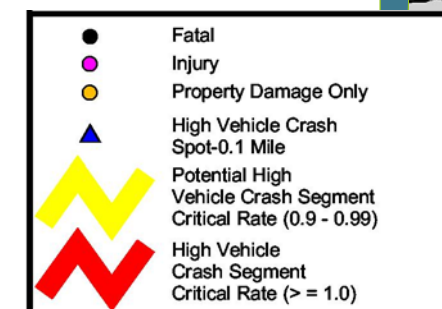
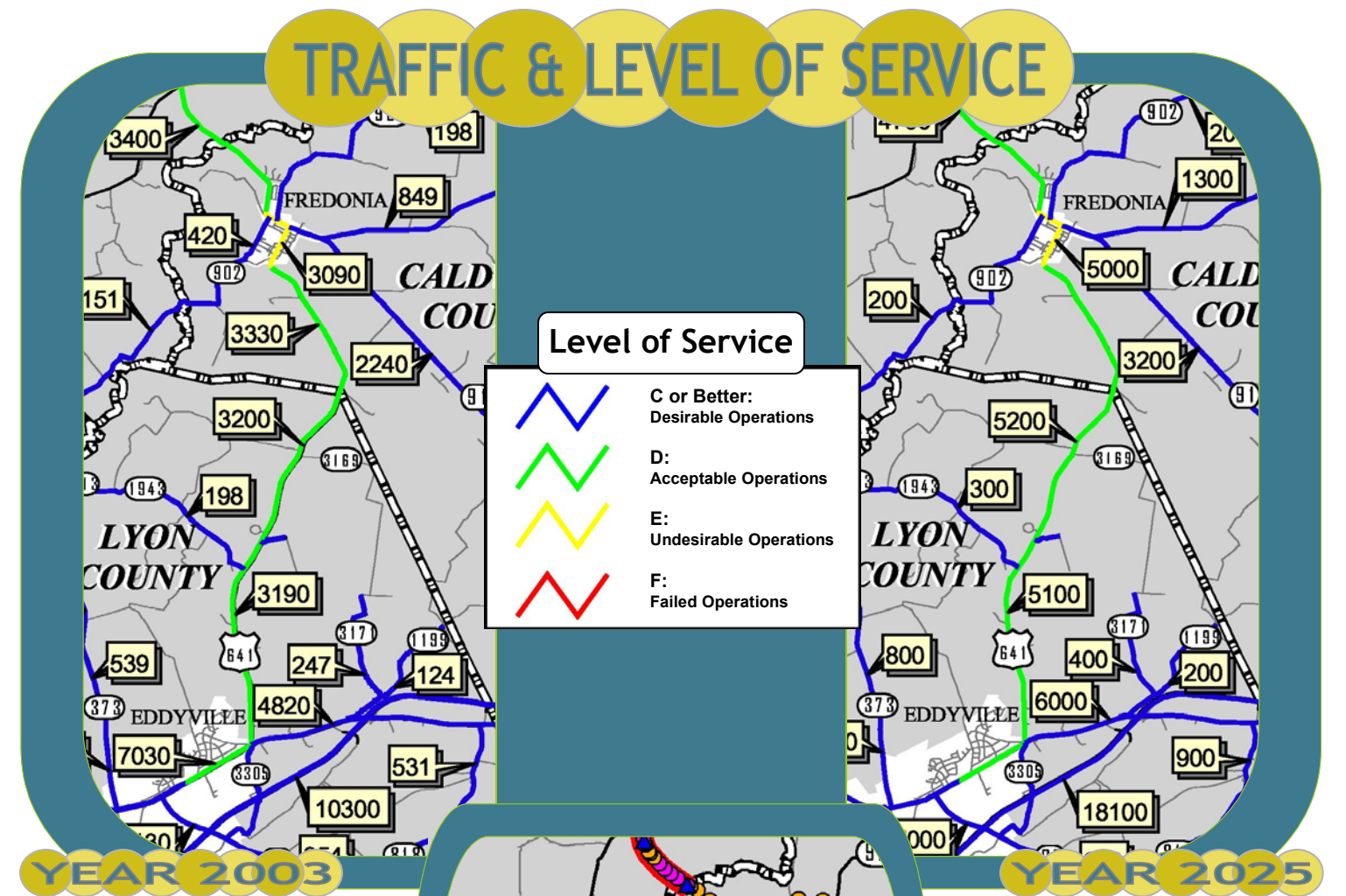
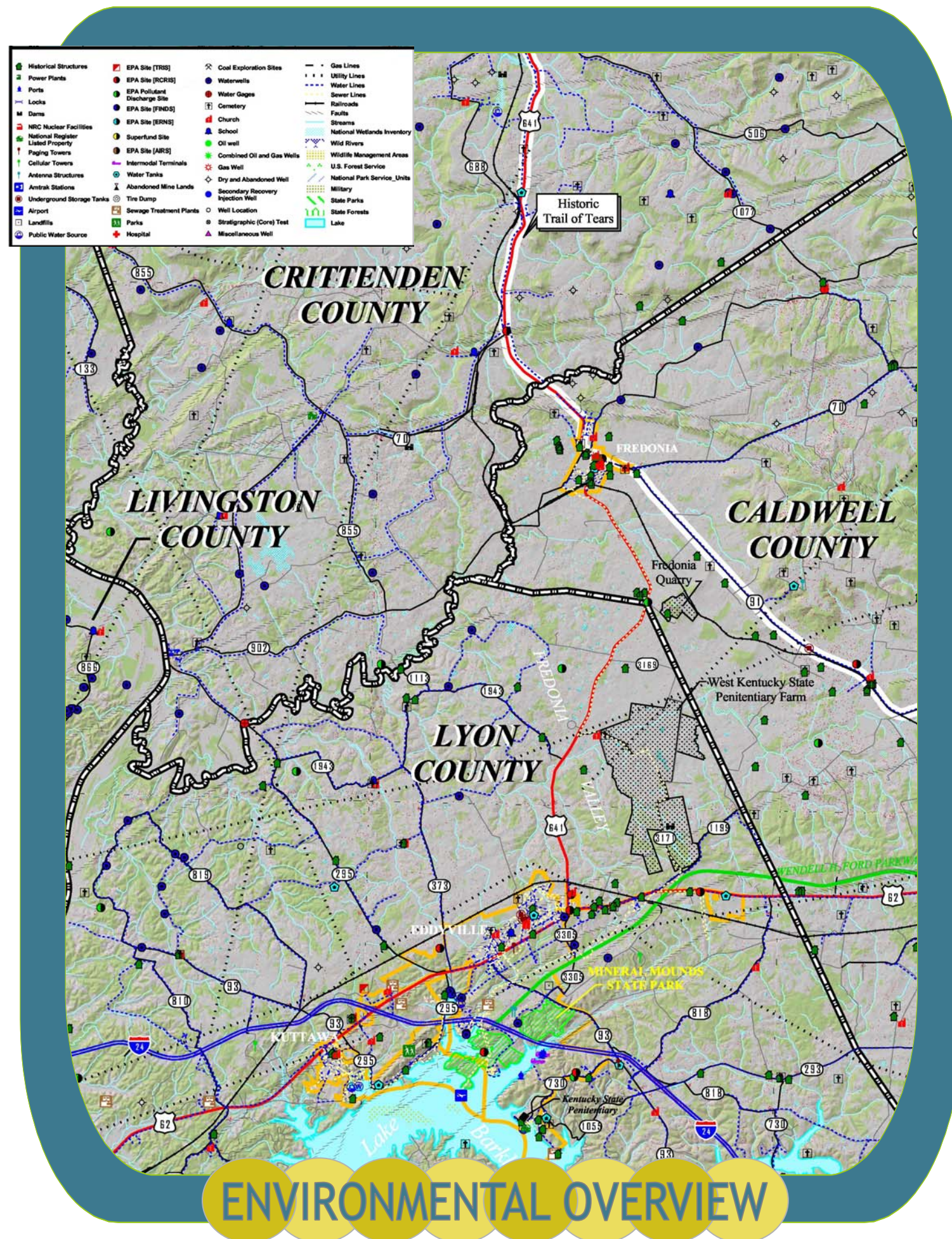
- Access for 102-inch wide trucks
- Connectivity between other major roadways
- Serving the site of a proposed industrial park, southeast of Fredonia
- Safety and capacity concerns
- Recreation and tourism access
- Other highway projects in the area

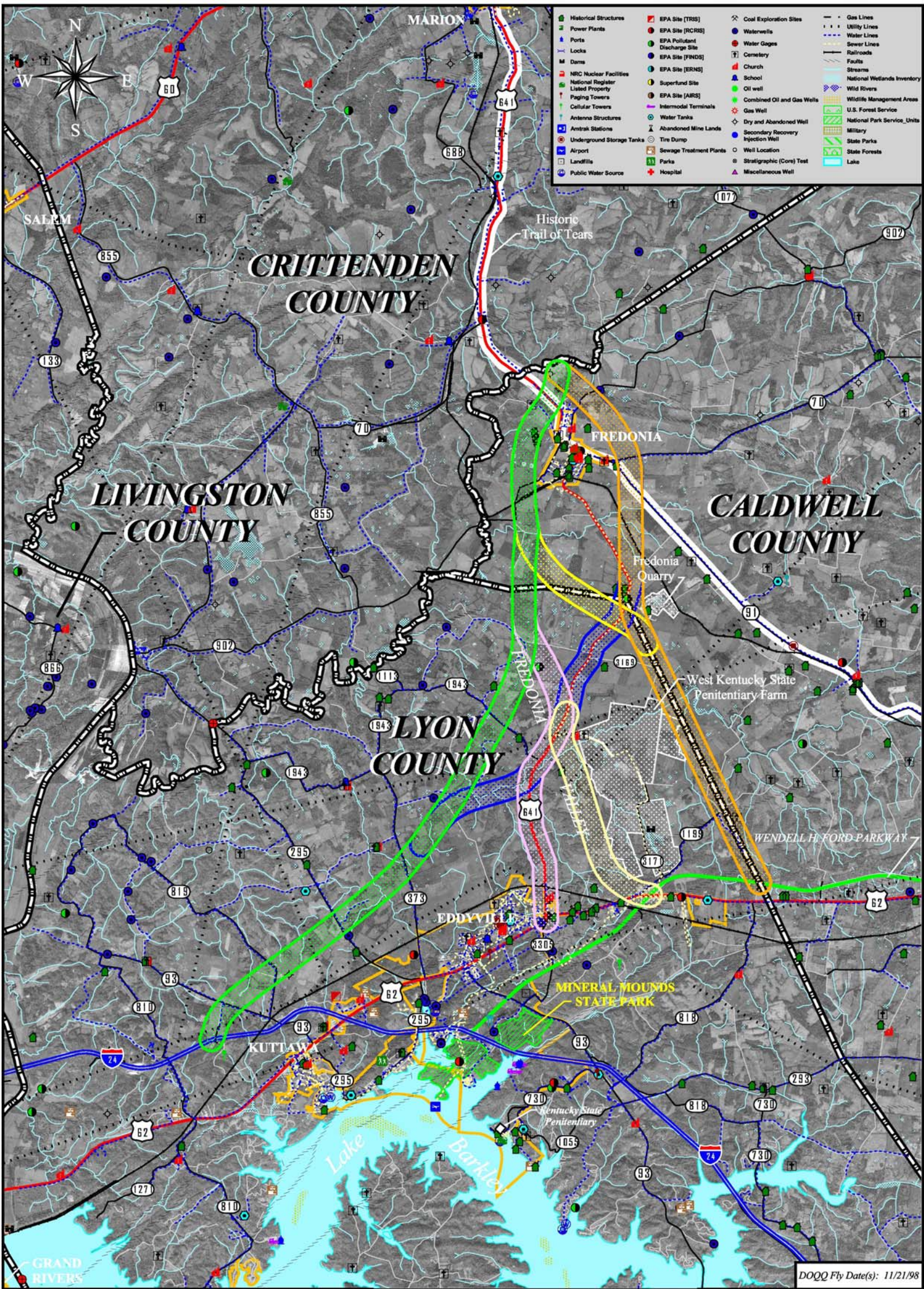
Typical section along
US 641 in Lyon &
Caldwell Counties.



Entrance to Fredonia.







LEGEND
(Corridors oriented south to north)

- ALT. 1	- ALT. 3
- ALT. 1A	- ALT. 3A
- ALT. 2	- ALT. 4
- ALT. 2A	- ALT. 4A

1 0 1 2 3 Miles

US 641

Location Map

EDUCATION PAYS

KENTUCKY TRANSPORTATION CABINET

WILBUR SMITH ASSOCIATES

Proposed Alternative Corridors
(Level 2)

Lyon and Caldwell Counties

US 641, Fredonia to Eddyville

Ms. LaVerne Reid
District Manager
Airports District Office, Federal Aviation Administration
3385 Airways Blvd., Suite 302
Memphis TN 38116

American Association of Truckers
P.O. Box 487
Benton KY 42025

Delta Regional Authority
236 Sharkey Avenue, Suite 400
Clarksdale MS 38614

Mr. Donald C. Storm
Adjutant General
Department of Military Affairs
Boone Nat'l Guard Ctr., 100 Minuteman Pky.
Frankfort KY 40601

Mr. George Ward
Commissioner
Department of Parks
10th, floor, Capital Plaza Tower, 500 Mero St.
Frankfort KY 40601

Mr. George Crothers
Director, Office of State Archaeology
Dept. of Anthropology, University of Kentucky
211 Lafferty Hall
Lexington KY 40506-0024

Mr. William Straw, Ph.D.
Regional Environmental Officer
Federal Emergency Management Agency, Region IV
3003 Chamblee-Tucker Road
Atlanta GA 30341-4130

Ms. Margie Shouse
Independent Hauler Association
905 Nebo Road
P.O. Box 178
Madisonville KY 42431

Mr. Jack Fish
President
Kentuckians for Better Transportation
10332 Bluegrass Parkway
Louisville KY 40299

Kentuckians for The Commonwealth
105 Reams Street
P.O. Box 1450
London KY 40743

Mr. James Holsinger
Secretary
Kentucky Health Services Cabinet
275 East Main
Frankfort KY 40601

Mr. John Houlihan
Kentucky Airport Zoning Commission
Transportation Office Building, W3-09-02
200 Mero Street
Frankfort KY 40622

Mr. Bob Arnold
Executive Director
Kentucky Association of Counties
380 King's Daughters Drive
Frankfort KY 40601

Mr. Ken Oilschlager
President
Kentucky Chamber of Commerce Executives, Inc.
464 Chenault Road
Frankfort KY 40601

Mr. Richie Farmer
Commissioner
Kentucky Department of Agriculture
Capitol Annex, Suite 188
Frankfort KY 40601

Mr. Lloyd Cress, Sr.
Commissioner
Kentucky Department of Environmental Protection
14 Reilly Road
Frankfort KY 40601

Mr. C. Thomas Bennett
Commissioner
Kentucky Department of Fish and Wildlife Resources
Arnold L. Mitchell Bldg., #1 Game Farm Rd.
Frankfort KY 40601

Ms. Susan Bush
Commissioner
Kentucky Department of Nat'l. Resources
663 Teton Trail
Frankfort KY 40601

Mr. Stephen A. Coleman
Director
Kentucky Department of Nat'l. Resources, Division of
Conservation
663 Teton Trail
Frankfort KY 40601

Mr. Mark Miller
Commissioner
Kentucky Department of State Police
919 Versailles Road
Frankfort KY 40601

Mr. Frank Reid
Acting Commissioner
Kentucky Dept. of Surface Mining Reclamation and Enforcement
2 Hudson Hollow
Frankfort KY 40601

Kentucky Disabilities Coalition
P.O. Box 1589
Frankfort KY 40602-1589

Mr. John Lyons
Director
Kentucky Division of Air Quality
803 Schenkel Lane
Frankfort KY 40601

Ms. Leah W. MacSwords
Director
Kentucky Division of Forestry
627 Comanche Trail
Frankfort KY 40601

Mr. Greg Howard
Commissioner
Kentucky Department of Vehicle Enforcement
Transportation Office Building, Suite T-500
200 Mero Street
Frankfort KY 40622

Mr. Tony Hatton
Acting Director
Kentucky Division of Waste Management
14 Reilly Road
Frankfort KY 40601

Mr. Jeff Pratt
Director
Kentucky Division of Water
14 Reilly Road
Frankfort KY 40601

Mr. Marvin E. Strong, Jr.
Secretary
Kentucky Economic Development Cabinet
Capital Plaza Tower, 500 Mero St.
Frankfort KY 40601

Mr. John Bird
Executive Director
Kentucky Forward
464 Chenault Road
Frankfort KY 40601

Mr. Jim Cobb
State Geologist & Director
Kentucky Geological Survey, University of Kentucky
228 Mining and Mineral Resources Bldg.
Lexington KY 40506

Mr. David L. Morgan
Executive Director
Kentucky Heritage Council
300 Washington Street
Frankfort KY 40601

Mr. Kent Whitworth
Director
Kentucky Historical Society
100 W. Broadway
Frankfort KY 40601

Kentucky Industrial Development Council, Inc.
109 Consumer Lane, Ste. A
Frankfort KY 40601-8489

Ms. Sylvia L. Lovely
Executive Director
Kentucky League of Cities, Inc.
101 East Vine Street, Ste. 600
Lexington KY 40507

Mr. Ned Sheehy
President
Kentucky Motor Transport Association
617 Shelby Street
Frankfort KY 40601

Ms. LaJuana Wilcher
Secretary
Kentucky Natural Resources and Environmental Protection Cabinet
Capital Plaza Tower, 5th Floor
Frankfort KY 40601

Mr. Donald S. Dott, Jr.
Executive Director
Kentucky Nature Preserves
801 Schenkel Lane
Frankfort KY 40601

Ms. Vickie Bourne
Executive Director
Kentucky Office of Transportation Delivery
Transportation Office Building, W3-10-01
200 Mero Street
Frankfort KY 40622

Mr. Beecher Hudson
Executive Director
Kentucky Public Transit Association
c/o Louisville Red Cross
P.O. Box 1675
Louisville KY 40201

Ms. Marcheta Sparrow
President
Kentucky Tourism Council
TARC, 1100 US127 S., Bldg. C
Frankfort KY 40601

Mr. W. James Host
Secretary
Kentucky Commerce Cabinet
Capital Plaza Tower, 24 Floor
500 Mero Street
Frankfort KY 40601

Mr. Allan Frank
Acting Director
KYTC, Division of Bridge Design
Transportation Office Building, E3-16-01
200 Mero Street
Frankfort KY 40622

Mr. Dexter Newman
Director
KYTC, Division of Construction
Transportation Office Building, W3-06-01
200 Mero Street
Frankfort KY 40622

Mr. David Waldner
Director
KYTC, Division of Environmental Analysis
Transportation Office Building, W5-22-02
200 Mero Street
Frankfort KY 40622

Mr. Wesley Glass
Director
KYTC, Division of Materials
1227 Wilkinson Boulevard
Frankfort KY 40622

Mr. Duane Thomas
Acting Director
KYTC, Division of Traffic Operations
Transportation Office Building, E3-04-03
200 Mero Street
Frankfort KY 40622

Mr. Chad Larue
Branch Manager
KYTC, Permits Branch
Transportation Office Building, E3-04-03
200 Mero Street
Frankfort KY 40622

Ms. Virginia Fox
Secretary
Education Cabinet
Capital Plaza Tower, 2nd Floor
Frankfort KY 40601

Mr. James Aldridge
Director
Nature Conservancy - Kentucky Chapter
642 West Main Street
Lexington KY 40508

Ms. Helen Cleary
President
Scenic Kentucky
P. O. Box 2646
Louisville KY 40201

Mr. Oscar Geraldts
Sierra Club
259 West Short Street
Lexington KY 40507

Mr. Heinz Mueller
Attorney
U. S. Environmental Protection Agency, Region 4 Office
13th Floor, Atlanta Federal Ctr.
61 Forsyth St. SW
Atlanta GA 30303

Mr. David Sawyer
State Conservationist
U.S. Dept. of Agriculture, Natural Resources Conservation Service
711 Corporate Drive, Suite 110
Lexington KY 40503

Mr. Kenneth W. Holt
U.S. Dept. of Health & Human Serv., Center for Disease Control,
Emergency And Environmental Health Services Division
Mail Stop F-16
4770 Buford Highway, N.E.
Atlanta GA 30341-3724

Mr. Lee Andrews
Field Supervisor
U.S. Dept. of the Interior, Fish and Wildlife Service
3761 Georgetown Road
Frankfort KY 40601

Mr. Roger Wiebusch
Bridge Administrator
United States Coast Guard, Bridge Branch
1222 Spruce Street
St. Louis MO 63103

The Honorable Jim Bunning
United States Senator
United States Senate
316 Hart Senate Office Building
Washington DC 20510

The Honorable Mitch McConnell
United States Senator
United States Senate
361-A Russell Senate Office Building
Washington DC 20510

Colonel William Howard
Executive Director
Kentucky Association of Riverports, Henderson County Riverport
6200 Riverport Rd.
Henderson KY 42420

Colonel Robert E. Slockbower
District Engineer
U. S. Army Corps of Engineers, Louisville District
P.O. Box 59
Louisville KY 40201

Lt. Colonel Steve Gay
District Engineer
U. S. Army Corps of Engineers, Nashville District
P.O. Box 1070
Nashville TN 37202-1070

The Honorable Ed Whitfield
United States Representative, District 1
U. S. House of Representatives
236 Cannon House Office Building
Washington DC 20515

Mr. John Milchick, Jr.
Kentucky State Coordinator
U.S. Department of Housing & Urban Development, Ky. State
Office
601 West Broadway
Louisville KY 40202

The Honorable Sara Boyd
Lyon County Judge/Executive
Lyon County Courthouse
P.O. Box 598
Eddyville KY 42038

Mr. Charles Ferguson
Lyon County Magistrate
Lyon County Courthouse
P.O. Box 598
Eddyville KY 42038

The Honorable Judith Stone
Mayor
City of Eddyville
P.O. Box 744
Eddyville KY 42038

Dr. Lee Gold
School Superintendent
217 Jenkins Road
Eddyville KY 42038

Mr. Lee McCollum
Mayor
City of Kuttawa
1349 Lake Barkley Drive
Kuttawa KY 42055

Ms. Shelly Morris
Grand Rivers Project Manager
The Nature Conservancy - KY Chapter
P.O. Box 346
Benton KY 42025

Mr. Jim Moore
Caldwell-Lyon Partnership
P.O. Box 188
Eddyville KY 42038

Kayl Kite
U.S. Army Corps of Engineers
P.O. Box 218
Grand Rivers KY 42045

Mr. Bill Robertson
City Engineer
City of Kuttawa
P.O. Box 400
Kuttawa KY 42045

Ms. Kay McCollum
Kentucky's Western Waterland
721 Complex Drive
Grand Rivers KY 42045

The Honorable Van Knight
Caldwell County Judge/Executive
100 East Market Street
Princeton KY 42445

Mr. Steve Cruce
Lyon County Magistrate
Lyon County Courthouse
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Eddyville KY 42038

Ms. Becky Pancake
Deputy Warden
Western Kentucky Correctional Complex
374 New Bethel Road
Fredonia KY 42411

Mr. Tom Simpson
Warden
Western Kentucky Correctional Complex
374 New Bethel Road
Fredonia KY 42411

The Honorable Mike Board
Mayor
City of Fredonia
P.O. Box 152
Fredonia KY 42411

Mr. Steve Davidson
Crittenden County EDC
200 Industrial Drive
P.O. Box 381
Fredonia KY 42064

The Honorable Michael Alexander
Mayor
City of Marion
108 E Bellville Street
Marion KY 42064

The Honorable Fred Brown
Crittenden County Judge/Executive
Crittenden County Courthouse
109 S Main Street
Marion KY 42064

The Honorable J. R. Gray
Kentucky State Representative, 6th District
3188 Mayfield Highway
Benton KY 42025

The Honorable Mike Cherry
Kentucky State Representative, 4th District
803 S Jefferson Street
Princeton KY 42445

The Honorable Bob Jackson
Kentucky State Senator, 1st District
P.O. Box 1111
Murray KY 42071

The Honorable Dorsey Ridley
Kentucky State Senator, 4th District
4030 Hidden Creek Drive
Henderson KY 42420

Mr. Mark Champion
Manager
Martin Marietta Aggregates
297 Fredonia Quarry Road
Fredonia KY 42411

Mr. Terry Ford
Planning Commissioner
290 Airport Road
Marion KY 42064

Mr. Bill Jones
Planning Commission Chairman
City of Marion
108 E Bellville Street
Marion KY 42064

Mr. Allen Stout
Crittenden County Attorney
Crittenden County Courthouse
109 S Main Street
Marion KY 42064

Mr. Victor "Pippi" Hardin
703 E Bellville Street
Marion KY 42064

BellSouth Telecommunications Inc.
801 Richard Street
Hopkinsville KY 42240

Atmos Energy
2401 New Hartford Road
Owensboro KY 42303

Kentucky Utilities Company
195 Hubert Reid Road
Earlington KY 42410

Caldwell County Water District
118 W Market Street
Princeton KY 42445

Texas Gas Transmission, LLC
3800 Frederica Street
Owensboro KY 42302

MediaCom Cable TV
325 N Plum Street
Princeton KY 42445

Mr. Kerry McClure
Technical Supervisor
MediaCom Cable TV
90 North Main Street
Benton KY 42025

Mr. Kerry Doke
Technical Manager
Galaxy Cablevision
1718 Barlow Road
Wickliffe KY 42087

Mr. Donnie Phillips
Manager
Kenergy Corporation
703 South Main Street
Marion KY 42064

Mr. Gary Coleman
Operations Manager
Tennessee Valley Authority
10060 State Route 45 North
Hickory KY 42051

Mr. Dale Rector
Engineer
Big Rivers Electric Corp.
201 Third Street
P.O. Box 24
Henderson KY 42419-0024

Mr. Eddie Tucker
Project Manager
Atmos Energy Corporation
3034 Parker Street
Paducah KY 42003

Mr. Donald Robertson
Chairman
Lyon County Water District
5464 US Highway 62
Kuttawa KY 42055

Mr. Gary Ramage
Project Manager
BellSouth Telecommunications Inc.
1200 Old Mayfield Road
Paducah KY 42003

CRITTENDEN FISCAL COURT RESOLUTION # 04-R- _____

WHEREAS the Crittenden Fiscal Court has determined that it is in the best interest of the citizens of Crittenden County, Kentucky for the Kentucky Cabinet Transportation to establish a four lane road for US Hwy. 641 to replace the current two lane US Hwy 641; and

WHEREAS the welfare of the citizens of Crittenden County, Kentucky will be enhanced from a public safety, economic development and quality life standpoint to have 4 lane access to Crittenden County, Kentucky; and

WHEREAS the Crittenden County, Kentucky Fiscal Court has determined that the best prospective location for said road for the benefit of the citizens of Crittenden County, Kentucky is a certain route as hereafter defined; and

WHEREAS the Kentucky Transportation Cabinet, director of division of plan has requested input concerning the location of the second leg of the 641 project; now therefore will be it resolved by the Fiscal Court of Crittenden County Kentucky as follows:

1. The Crittenden County Fiscal Court hereby unanimously endorses the location of the US Hwy 641 in the following order of priority:

- a. First choice alternate 3
- b. Second choice alternate 2
- c. Third choice alternate 4

All references for the alternate routes referred to herein are referenced to the proposed alternate corridors (level 2) map printed July, 19, 2004 for Lyon and Caldwell County reflecting US Hwy. 641, Fredonia to Eddyville.

2. The Crittenden County Fiscal Court does hereby fully endorse the location of the US Hwy. 641 corridor according to the recommendation contained herein for the best interests of the citizens

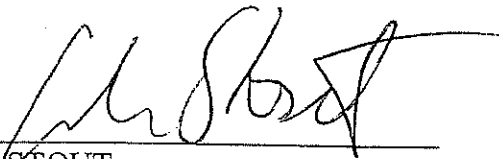
of Crittenden County, Kentucky.

Upon motion by Esquire Wood and second by Esquire West, this
resolution was adopted by the Crittenden County Fiscal Court on this 30 day of Sept.
2004


CRITTENDEN COUNTY JUDGE/ EXECUTIVE


CRITTENDEN COUNTY COURT CLERK

Prepared by:


ALAN STOUT,
CRITTENDEN COUNTY ATTORNEY

Wilson, Jimmy (KYTC)

From: Stallins, Anthony [Anthony.Stallins@atmosenergy.com]
Sent: Monday, October 18, 2004 12:12 PM
To: Jimmy.Wilson@ky.gov
Cc: Dobbs, Jay K.; Tucker, Eddie A.; Stallins, Anthony; Hazzard, Eddie G.; Kirkland, Morgan; Schaeffer, Howard F.; Willis, John M.
Subject: US 641, Reconstruction or Relocation from Eddyville to Fredonia

Dear Mr. Wilson,

I received your "Hwy 641, Reconstruction or Relocation from Eddyville to Fredonia" packet from Annette Coffey asking for input or comments concerning the relocation. Atmos Energy serves the cities of Fredonia, Marion and Eddyville and also the Fredonia Quarry and the West Kentucky State Penitentiary with natural gas. The relocation routes will effect any and all our right-a-ways. I would like to briefly point out our lines and their proximity to proposed alternative corridors.

The cities of Fredonia and Marion are served by a 4" high pressure distribution line which parallels Hwy 91 east of Fredonia to the intersection of Hwy 641 and then parallels Hwy 641 to Marion.

The Fredonia Quarry and the West Kentucky State Penitentiary are served from our purchase station located approximately 500' south of the intersection of Hwy 641 and Fredonia Quarry Rd. The Quarry is served by a 4" high pressure distribution line which parallels the Fredonia Quarry Rd on the south side to the Quarry. The Prison Farm is served by another 4" high pressure distribution line which runs across country from this station to the Prison Farm.

The city of Eddyville is served by a 4" high pressure line which parallels Hwy 373 on the east side and Hwy 62 on the north side.

Alternate Routes 1 and 3 will both cross our line serving the cities of Fredonia and Marion with Route 3 crossing our line which serves the City of Eddyville. The greatest impact to our systems appears to be Alternate Route 1 and its other possible alternatives. This route will cross our line on Hwy 91, and will also impact our purchase station at the intersection of Hwy 641 and Fredonia Quarry Rd. and our lines serving the Fredonia Quarry and the Prison Farm. As best I can tell by your map our line from the intersection of Hwy 641 and Fredonia Quarry Rd to the Prison Farm would be totally affected.

I will be available if you need additional information and would be available if someone needs to meet on site.

Thanks so much,

Anthony Stallins

Anthony Stallins

Atmos Energy

Operation Supervisor

10/18/2004

307 Marion Rd.

Princeton, KY 42445

270-365-5514

anthony.stallins@atmosenergy.com



Crittenden County Economic Development Corp.

October 18, 2004

Stephen Davidson
President/CEO
(270) 965-9294
(877) 698-1788
BD OF DIRECTORS
Gareth Hardin, Chairman
Terry Ford, Treasurer
Michael Alexander
Fred Brown
Michael Byford
Doug Florkowski
Zac Greenwell
Gordon Guess
Alan Stout
Chris Sutton
Glenn Underdown

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, Station W5-05-01
Frankfort, KY 40622

Dear Ms. Coffey:

Thank you for the opportunity to offer input and comments for the US 641 highway project from Eddyville in Lyon County to Fredonia in Caldwell County. This input is provided on behalf of the Board of Directors of the Crittenden County Economic Development Corporation (CCEDC) in Marion.

The CCEDC strongly endorses **Alt. 2A of the Proposed Alternative Corridors (Level 2)**.

The CCEDC has identified no issues or concerns that could adversely affect the development of the project if Alt. 2A is the selected route. Indeed, with the forthcoming development of the 5-county Pennyryle WestPark Industrial Park on 800 acres on state-owned property adjacent to the Eddyville State Prison Farm, it is economically vital that the "new" 641 be in close proximity to this mega industrial park.

Attracting large manufacturing companies to the park will hinge greatly on whether there is a 4-land highway that brings industrial transportation to and from the park. Consequently, the CCEDC Board of Directors urges the KTC to consider **Alt. 2A** for the "new" Hwy 641 Eddyville to Fredonia route. This route will then easily link to the Fredonia to Marion portion of the 641 project.

Please feel free to contact me, should you require additional input from our organization.

Sincerely,

Stephen D. Davidson
President/CEO

Cc: Members, CCEDC Board of Directors

Marion / Crittenden County EdTech Center
200 Industrial Drive • P.O. Box 381 • Marion, Kentucky 42064

DIV OF PLANNING
2004 OCT 21 P 2:47



**TERRY L. FORD
INSURANCE AGENCY, INC.**

P.O. Box 367
221 East Bellville Street
Marion, Kentucky 42064
Phone: (270) 965-2239
Fax: (270) 965-2230
Email: tlf@terrylford.com
Website: www.terrylford.com

October 20, 2004

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Station W5-05-01
Frankfort, KY 40622

Re: Planning Study
Lyon and Caldwell Counties
US 641 Reconstruction or Relocation from Eddyville to Fredonia

Dear Annette:

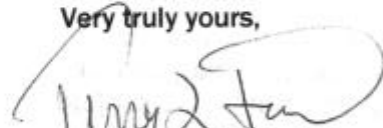
Thank you for the opportunity to provide feedback regarding the US 641 reconstruction project in Lyon and Caldwell Counties. I represent the City of Marion Planning Commission, serve as Treasurer for the Crittenden County Economic Development Corporation (CCEDC), as well as own an insurance agency in Marion.

The CCEDC, WKIF, and I all strongly support Alt. 2A of the Proposed Alternative Corridors (Level 2). These organizations believe that Alt. 2A is a critical step in further supporting and enhancing the economical growth of the entire area. Specifically, Alt. 2A will support the new Pennyriple WestPark Industrial Park by providing 4-lane access to and from the park which will most certainly assist in attracting large manufacturing companies. By linking to the Fredonia to Marion portion of this project, Alt. 2A will further support the small business owners who are currently located in these communities.

Therefore, on behalf of these organizations, I respectfully urge the Kentucky Transportation Cabinet to consider Alt. 2A.

If you would like additional information from our organization, please feel free to contact me at (270) 965-2239 or tlf@terrylford.com.

Very truly yours,


Terry L. Ford, CIC, AAI
President

DIV OF PLANNING
2004 OCT 22 A 11:37



COMMONWEALTH OF KENTUCKY

STATE SENATE

October 1, 2004

Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Metro Street
Station W5-05-01
Frankfort KY 40622

Ms. Coffey:

Thank you so much for the opportunity to give my input on the reconstruction / relocation of US 641 from Eddyville to Fredonia. I have a keen interest in this project because of my representation of Caldwell County in the State Senate; I also feel that this project will benefit not only my constituents, but the entire region.

Having reviewed the information you provided me, I have just two comments regarding the alternative routes proposed for this project:

1. It appears that the Pink/ Green route (Alternate 2) would affect the fewest individuals and require the smallest number of relocations. By bringing the route around to the west, it would make for an easier right of way acquisition.
2. Beyond the Fredonia area I am quite concerned about how the project will co -exist with both the quarry and the Western Kentucky Correctional Complex. For environmental and safety reasons, it might appear that using the present corridor in this area would be prudent.

If you require any further information or seek any additional information, I would be pleased to discuss this with you at any time. Thank you again for seeking out my comments on this project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Dorsey Ridley".

Dorsey Ridley
State Senator

DR: ey
Cc: Van Knight
Fred Brown

DIV OF PLANNING
2004 OCT 11 A 11: 27



DIV OF PLANNING

DEPARTMENT OF CORRECTIONS
WESTERN KENTUCKY CORRECTIONAL COMPLEX
374 NEW BETHEL ROAD
FREDONIA, KY 42411
(270) 388-9781

2004 OCT 22 A 11:37

October 19, 2004

Ms. Annette Coffey, P. E.
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Station W5-05-01
Frankfort, KY 40622

Dear Ms. Coffey:

This letter is to acknowledge receipt of your September 15, 2004, letter subject: "Planning Study, Lyon and Caldwell Counties, U. S. 641, Reconstruction or Relocation from Eddyville to Fredonia." Secondly, and more important, this letter is to acknowledge my appreciation to you for the opportunity for input on behalf of the Western Kentucky Correctional Complex.

The Western Kentucky Correctional Complex (WKCC) operates within the Justice and Public Safety Cabinet, Department of Corrections. Our mission, in part, is to protect the citizens of the Commonwealth and to provide a safe and secure environment for inmates and employees residing and working within the prison.

In review of the various options for the relocation of the highway project, I believe some of the proposed routes may compromise WKCC's mission. Specifically, a four-lane highway running adjacent to and/or crossing existing prison property, as does alternates #1, #4, and #4-A, has the potential for jeopardizing the safety and security of the prison operations and citizenry.

In addition to the 470 medium-security inmates, the prison operates approximately 2,000 acres of farmland utilizing inmate labor from the nearly 200 minimum-security inmates. The potential for dangerous contraband, i.e. drugs, weapons, etc., entering the prison property and inmate population would significantly be greater with a highway in such close proximity to the prison. The same would apply to the potential for escape through easier facilitation.

Ms. Annette Coffey, P. E.

October 19, 2004

Page 2

In light of the above, it would be the position of WKCC to oppose alternative #1, #4, and #4A as possible locations for the U. S. 641 Highway relocation. It is further believed that the remaining alternatives would meet the established preliminary project goals while not jeopardizing the facilities mission of operating a safe and secure facility and citizenry protection.

Again, I wish to thank you for the opportunity for input. If you should have questions or desire additional information, please contact me at your convenience.

Sincerely,


Thomas L. Simpson
Warden

xc: Mr. George Mission, Deputy Commissioner



DIV OF PLANNING

ERNIE FLETCHER
GOVERNOR

COMMERCE CABINET

CAPITAL PLAZA TOWER
500 MERO STREET, 24TH FLOOR
FRANKFORT, KENTUCKY 40601-1974
PHONE (502) 564-4270 FAX (502) 564-1512
commerce.ky.gov

W. JAMES HOST
SECRETARY
COMMERCE CABINET

DERRICK K. RAMSEY
DEPUTY SECRETARY
COMMERCE CABINET

October 5, 2004

Annette Coffey, P.E.
Kentucky Transportation Cabinet
Director
Division of Planning
200 Mero Street
Frankfort, Kentucky 40622

Subject: Lyon and Caldwell Counties
US 641, Reconstruction and Relocation
From Eddyville to Fredonia.

Dear Ms. Coffey,

Thank you for providing the opportunity to review and comment upon the alternatives being considered for the restructuring of US 461 from Eddyville to Fredonia.

I have reviewed the material provided by your office relating to the project. It appears that each proposed route, with the exception of alternative 3, will make travel to Mineral Mounds State Park much easier for the traveler. This is obviously one aspect of the proposals in which this Cabinet has a great interest.

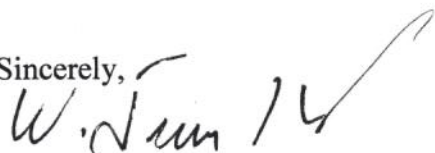
I have noted each route has what appears to be a minimal impact upon natural habitat and historic sites in the area. This is the case to a lesser extent with alternative 1, alternative 1A, and alternative 2A.

To insure my interpretation of the materials is not erroneous I ask that the Kentucky Department of Fish and Wildlife, Kentucky Historical Society, and the Kentucky Heritage Council be contacted for their review. This will provide the agencies the opportunity to provide input relating to their interest.

Your efforts to improve the Kentucky roadways are greatly appreciated. The efforts being taken to ensure safe and efficient travel to facilities owned, operated, and promoted by state agencies is especially important.

If I may be of further assistance please do not hesitate to contact my office. I can be reached at 564-4270.

Sincerely,

A handwritten signature in black ink, appearing to read "W. James Host", with a long, sweeping flourish extending from the end of the signature.

W. James Host
Secretary

Wilson, Jimmy (KYTC)

From: Michele Morris [mmorris@tnc.org]
Sent: Wednesday, November 17, 2004 9:38 AM
To: Jimmy Wilson
Subject: 641 Planning Study

Mr. Wilson,

I apologize for my delay in getting my comments to you. I have attached a letter that summarizes my input into the 641 planning study. If you need to contact me for any reason, please feel free to do so.

Thank you for your time,

Shelly Morris
Grand Rivers Corridor Project Manager
The Nature Conservancy-Ky.Chapter
642 West Main Street
Lexington, KY 40508
Mobile: (270)748-0259
email: mmorris@tnc.org

November, 15 2004

Mr. Jim Wilson
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, Station W5-05-01
Frankfort, KY 40622

Dear Mr. Wilson,

I am writing this letter to express my input on the US 641 project. As the Grand Rivers Corridor Project Manager for the Kentucky Chapter of The Nature Conservancy I am active in Lyon and Caldwell Counties, and especially in the area of proposed construction. In July of 2004 I attended a meeting for local officials and key stakeholders. I gained a great deal from the information presented at this meeting and when I voiced my opinion, I felt that I was genuinely listened to. I would like to express my gratitude for that reception.

A large portion of my time is spent working with private landowners to help them establish good conservation practices on their property. Some examples of this work include exotic species removal, tree plantings, water quality improvement via stream and karst protection, and projects that directly impact threatened and endangered plants and animals.

In the last year I have been working with landowners in the area of proposed construction. One landowner in particular owns approximately 1600 acres – about 600 acres in one block northeast of Eddyville and about 1000 acres south of Fredonia. The 600 acre tract lies under the southern (light yellow) portion of Alternative #4. The 1000 acre tract is largely under the middle (dark yellow) section of Alternative #1A. This person has spent a great deal of effort over the years to improve wildlife habitat on his property. Contiguous pieces of land of this size that have been cared for in this manner are hard to come by in the area. These relatively large parcels of land are critical from the standpoint of wildlife population dynamics.

I understand that a project of this scale cannot hinge on one person's land. However, in addition to the threat of environmental impacts on streams, karst, and threatened and endangered species, there is also the reality of land fragmentation inherent in a project such as this. I feel that when possible, measures to keep large blocks of contiguous land intact should be taken. I appreciate the opportunity to provide input into the planning of this project. If any further discussion on this topic is desired, please do not hesitate to contact me.

Thank you,

Shelly Morris
Grand Rivers Corridor Project Manager
The Nature Conservancy – Kentucky Chapter
1-270-748-0259



DIV OF PLANNING

COMMONWEALTH OF KENTUCKY
KENTUCKY STATE POLICE

919 VERSAILLES ROAD
FRANKFORT KY. 40601
October 21, 2004

ERNIE FLETCHER
GOVERNOR

MARK L. MILLER
COMMISSIONER

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, Kentucky 40622

Dear Ms. Coffey:

Subject: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from
Eddyville to Fredonia

Dear Ms. Coffey:

Members of the Kentucky State Police assigned to the Mayfield Post have reviewed the planning study and associated documents that were sent to the Kentucky State Police. We agree with the draft statement of the project goals; particularly those goals that concern the possibility that the route could provide improved connectivity through the extension of US 641. Also encouraging is the fact that a reconstructed or relocated US 641 should be of benefit to our agency as well as the motoring public by decreasing the number of accidents through the use of an improved roadway character. Based on the information provided in the study and our general knowledge of the area and roadway, we are not aware of any issues that may have a negative impact on the proposal to reconstruct or relocate US 641.

The Kentucky State Police is committed to ensuring that the motoring public is as safe as possible. To aid us in that endeavor, I appreciate the opportunity to have reviewed this particular study as well as to provide whatever relevant input we might possess. If I may be of further assistance on this or any other matter, please do not hesitate to contact me.

Sincerely,

Captain Stephen C. Humphreys
Commander, Mayfield Post



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

DIV OF PLANNING



ERNIE FLETCHER
GOVERNOR

2004 SEP 28 P 2:09

CABINET FOR HEALTH AND FAMILY SERVICES

UNDERSECRETARY FOR
ADMINISTRATIVE & FISCAL AFFAIRS
275 EAST MAIN STREET, 4W-A
FRANKFORT, KENTUCKY 40621-0001
(502) 564-6729
WWW.KENTUCKY.GOV

JAMES W. HOLSINGER, JR., M.D.
SECRETARY

DUANE L. KILTY, JR., PH. D.
UNDERSECRETARY

September 23, 2004

Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, Kentucky 40622

RE: Planning Study
Lyon and Caldwell Counties
US641, Reconstruction or Relocation from
Eddyville to Fredonia

As requested in your letter to Secretary Holsinger, the Cabinet for Health and Family Services has reviewed the impact of the reconstruction and/or relocation of US641 in Lyon and Caldwell Counties as it relates to the services we provide in this region. While the Cabinet does lease property in the immediate areas, we do not anticipate that the construction will create a hardship on our staff or clients. Given the goals of the study, I believe the changes would ultimately have a positive impact on the traffic flow in the area.

If you require additional information, do not hesitate to contact me at 564-6631.

Sincerely,

A handwritten signature in blue ink that reads "Lisa B. Detherage".

Lisa B. Detherage, Director
Division of Facilities Management

C: Dr. James W. Holsinger, Jr., M.D.



DIV OF PLANNING

2004 AUG 24 A 11: 21

Maxwell C. Bailey
Secretary of Transportation

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

Ernie Fletcher
Governor

MEMORANDUM

To: Annette Coffey, P.E., Director
KYTC Division of Planning

From: David M. Waldner, P.E., Director
KYTC Division of Environmental Analysis

A handwritten signature in blue ink, appearing to read "D. Waldner".

Date: August 18, 2004

Re: Planning Study -US 641 Alternatives Study
Lyon and Caldwell Counties, Kentucky Item #Not assigned

The proposed reconstruction or relocation of US 641 from Eddyville to Fredonia alternatives study has been evaluated by the Division of Environmental Analysis for any potential environmental challenges that would need to be addressed during the design stage. The following brief set of preliminary comments are based upon the planning study data presented, additional comments could be provided if/when site visits are conducted:

1. The Noise status and Air Quality status of the project likely would not be a problem; the project is outside an area that requires conformity. If the project is to be federally funded then limited base studies would be required to determine any Air and Noise impacts.
2. There was no discussion of Socio-economic data provided.
3. Stream and Wetland impacts should be limited/avoided. These areas if impacted would require 401 and 404 permits. They would also pose mitigation challenges due to the fact that there are no wetland banks in the area; the opportunity for on-site mitigation should be explored. Excess waste sites should also be considered and assessed early in the design process.
4. Several listed endangered species potentially located in the project area will likely require a biological assessment. Mitigation will be required if any of the specific habitat areas are impacted and/or unavoidable.
5. Specific details concerning HAZMAT and storage tanks would need to be obtained through a site assessment although one known site is present four other former service station sites could pose problems.

Planning Study Comments

Lyon and Caldwell Counties, Kentucky

Item #Not assigned yet

August 18, 2004

6. A cultural historic base study will be required due to the potential impact to resources in the project vicinity.
7. An Archaeological survey will be required in order to determine if any potentially eligible sites are present in the area of concern.

Our staff appreciates the opportunity to provide early comments on projects during the planning stage. If you should have any questions regarding these comments please contact Tony Vinegar or me at 564-7250.

DWM/TV
attachments

C: C. Kuntz D1 R. Davis D1 Files

Lyon County, Kentucky

Bald eagle - *Haliaeetus leucocephalus* (T)
Pink mucket pearly mussel - *Lampsilis orbiculata* (E)
Winged mapleleaf - *Quadrula fragosa* (E)(h)
Clubshell - *Pleurobema clava* (E)(h)
Fanshell - *Cyprogenia stegaria* (E)(h)
Orange-footed pearly mussel - *Plethobasus cooperianus* (E)
Ring pink - *Obovaria retusa* (E)(h)
Price's potato bean - *Apios priceana* (T)

Caldwell County, Kentucky

Indiana bat - *Myotis sodalis* (E)



ERNIE FLETCHER
GOVERNOR

COMMERCE CABINET
DEPARTMENT OF FISH & WILDLIFE RESOURCES
#1 GAME FARM ROAD
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-3400 FAX (502) 564-0506
(800) 858-1549
www.kentucky.gov

DIV OF PLANNING

2004 NOV 12 P 2:19

W. JAMES HOST
SECRETARY, COMMERCE CABINET

C. TOM BENNETT
COMMISSIONER

November 5, 2004

Annette Coffey, P. E.
Director
Kentucky Transportation Cabinet
Division of Planning
200 Mero Street
Frankfort, Kentucky 40622

RE: Threatened/endangered species, critical habitat review, and potential environmental impacts associated with the proposed reconstruction and/or relocation of US 641 from Eddyville to Fredonia.

Dear Ms. Coffey:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System (KFWIS) indicates that federally threatened and endangered species are known to occur within a 10 mile radius of the project and state threatened and endangered species are known to occur within a 2 mile radius of the project (see attached lists). Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

Based on this information, KDFWR makes the following recommendations:

- In areas in which Indiana bats are known to occur, any wooded areas, fencerows, or livestock pastures that may be impacted by the proposed project should be examined for the presence of Indiana bat habitat. Indiana bats form maternity colonies and roost under the bark of trees in both riparian and upland areas. Therefore, disturbance of trees with exfoliating bark, dead limbs, or cavities should be avoided during the time of year when Indiana bats are active.
- The project area should be surveyed for caves or mine portals that could be used by Indiana bats as wintering habitat.
- In areas where gray bats are known to occur, cave entrances that exist within the project area should be surveyed for potential use by gray bats. Because gray bats are cave residents year-round and maternity colonies are generally found in close proximity to rivers, streams, and lakes, any caves within the project area could offer potentially valuable habitat to resident gray bats.
- Several federal and state listed mussel records occur within close proximity to the project area. Surveys may need to be conducted to determine presence/absence of any listed mussels. Erosion control measures should be developed and utilized to insure that siltation is kept to a minimum during construction.
- To minimize impacts to mussels and bat foraging areas strict erosion control measures should be developed and implemented prior to construction to minimize siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control

measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

For more information on how to proceed with the threatened/endangered species surveys please contact the US Fish and Wildlife Service Kentucky Field Office at (502) 695-0468 or this office at (502) 564-7109 Extension 366.

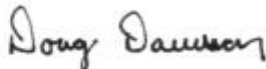
It appears that the proposed project may impact wetland habitats. KDFWR recommends that you look at the appropriate US Department of Interior National Wetland Inventory Map (NWI) and the appropriate county soil surveys to determine where the proposed project may impact wetlands. Additionally, field verification may be needed to determine the extent and quality of wetland habitats within the project area. Any planning should include measures designed to eliminate and/or reduce impacts to wetland habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats.

KDFWR recommends that you contact the appropriate US Army Corps of Engineers office and the Kentucky Division of Water prior to any work within the waterways or wetland habitats of Kentucky. Additionally, KDFWR recommends the following for the portions of the project that crosses intermittent or perennial streams:

- Channel changes located within the project area should incorporate natural stream channel design.
- Development/excavation during low flow period to minimize disturbances.
- Proper placement of erosion control structures below highly disturbed areas to minimize entry of siltation into streams within the project corridor.
- Replanting of disturbed areas after construction, including stream banks and Right-of-Ways, with native vegetation for soil stabilization and enhancement of fish and wildlife populations.
- Return all disturbed instream habitat to its original condition upon completion of construction in the area.
- Preservation of any tree canopy overhanging the stream.
- Return all right-of-ways to original elevation.

I hope this information proves helpful to you. If you have any questions or require additional information, please call me at (502) 564-7109 Extension 366.

Sincerely,



Doug Dawson
Wildlife Biologist III

Attachments

Cc: Environmental Section File

Federal T & E Species within a 10 Mile Radius of the Project Area

<u>Scientific Name</u>	<u>Common Name</u>	<u>Quad Name</u>	<u>County Name</u>	<u>Federal Status</u>
<i>Alosa alabamiae</i>	ALABAMA SHAD		LIVINGSTON	C
<i>Alosa alabamiae</i>	ALABAMA SHAD		CRITTENDEN	C
<i>Alosa alabamiae</i>	ALABAMA SHAD		TRIGG	C
<i>Alosa alabamiae</i>	ALABAMA SHAD		LYON	C
<i>Alosa alabamiae</i>	ALABAMA SHAD		MARSHALL	C
<i>Alosa alabamiae</i>	ALABAMA SHAD	Calvert City	MARSHALL	C
<i>Haliaeetus leucocephalus</i>	BALD EAGLE	Birmingham Point	LYON	PS:LT,PDL
<i>Haliaeetus leucocephalus</i>	BALD EAGLE	Calvert City	MARSHALL	PS:LT,PDL
<i>Haliaeetus leucocephalus</i>	BALD EAGLE	Dycusburg	LYON	PS:LT,PDL
<i>Haliaeetus leucocephalus</i>	BALD EAGLE	Eddyville	LYON	PS:LT,PDL
<i>Haliaeetus leucocephalus</i>	BALD EAGLE	Mont	LYON	PS:LT,PDL
<i>Pleurobema clava</i>	CLUSHELL		LYON	LE,XN
<i>Pleurobema clava</i>	CLUSHELL		LIVINGSTON	LE,XN
<i>Dromus dromas</i>	DROMEDARY PEARLYMUSSEL		LYON	LE,XN
<i>Dromus dromas</i>	DROMEDARY PEARLYMUSSEL		LIVINGSTON	LE,XN
<i>Cyprogenia stegaria</i>	FANSHELL		MARSHALL	LE
<i>Cyprogenia stegaria</i>	FANSHELL		LYON	LE
<i>Cyprogenia stegaria</i>	FANSHELL		LIVINGSTON	LE
<i>Cyprogenia stegaria</i>	FANSHELL	Calvert City	LIVINGSTON	LE
<i>Potamilus capax</i>	FAT POCKETBOOK		LIVINGSTON	LE
<i>Myotis grisescens</i>	GRAY MYOTIS		LIVINGSTON	LE
<i>Myotis grisescens</i>	GRAY MYOTIS		TRIGG	LE
<i>Myotis grisescens</i>	GRAY MYOTIS		HOPKINS	LE
<i>Myotis grisescens</i>	GRAY MYOTIS	Fredonia	CALDWELL	LE
<i>Myotis sodalis</i>	INDIANA BAT		TRIGG	LE
<i>Myotis sodalis</i>	INDIANA BAT		LIVINGSTON	LE
<i>Myotis sodalis</i>	INDIANA BAT		CALDWELL	LE
<i>Myotis sodalis</i>	INDIANA BAT	Fredonia	CALDWELL	LE
<i>Sterna antillarum athalassos</i>	INTERIOR LEAST TERN	Little Cypress	LIVINGSTON	LE
<i>Sterna antillarum athalassos</i>	INTERIOR LEAST TERN	Little Cypress	MARSHALL	LE
<i>Plethobasus cooperianus</i>	ORANGEFOOT PIMPLEBACK		LIVINGSTON	LE
<i>Plethobasus cooperianus</i>	ORANGEFOOT PIMPLEBACK		MARSHALL	LE
<i>Plethobasus cooperianus</i>	ORANGEFOOT PIMPLEBACK	Calvert City	MARSHALL	LE
<i>Plethobasus cooperianus</i>	ORANGEFOOT PIMPLEBACK	Calvert City	LIVINGSTON	LE
<i>Plethobasus cooperianus</i>	ORANGEFOOT PIMPLEBACK	Little Cypress	LIVINGSTON	LE
<i>Lampsilis abrupta</i>	PINK MUCKET		LYON	LE
<i>Lampsilis abrupta</i>	PINK MUCKET		MARSHALL	LE
<i>Lampsilis abrupta</i>	PINK MUCKET		LIVINGSTON	LE
<i>Lampsilis abrupta</i>	PINK MUCKET	Calvert City	MARSHALL	LE
<i>Lampsilis abrupta</i>	PINK MUCKET	Calvert City	LIVINGSTON	LE
<i>Lampsilis abrupta</i>	PINK MUCKET	Grand Rivers	LIVINGSTON	LE
<i>Lampsilis abrupta</i>	PINK MUCKET	Little Cypress	LIVINGSTON	LE
<i>Lampsilis abrupta</i>	PINK MUCKET	Mont	LYON	LE
<i>Obovaria retusa</i>	RING PINK		LYON	LE
<i>Obovaria retusa</i>	RING PINK		MARSHALL	LE
<i>Obovaria retusa</i>	RING PINK		LIVINGSTON	LE
<i>Obovaria retusa</i>	RING PINK	Calvert City	MARSHALL	LE
<i>Obovaria retusa</i>	RING PINK	Calvert City	LIVINGSTON	LE
<i>Obovaria retusa</i>	RING PINK	Grand Rivers	LIVINGSTON	LE

<i>Obovaria retusa</i>	RING PINK	Little Cypress	MARSHALL	LE
<i>Epioblasma torulosa torulosa</i>	TUBERCLED BLOSSOM		LIVINGSTON	LE,XN
<i>Epioblasma torulosa torulosa</i>	TUBERCLED BLOSSOM		LYON	LE,XN
<i>Plethobasus cicatricosus</i>	WHITE WARTYBACK		LYON	LE
<i>Plethobasus cicatricosus</i>	WHITE WARTYBACK		LIVINGSTON	LE

State T & E Species within a 2 Mile Radius of the Project Area

<u>Scientific Name</u>	<u>Common Name</u>	<u>Quad Name</u>	<u>County Name</u>	<u>KSNPC Status</u>
<i>Alosa alabamae</i>	ALABAMA SHAD		LIVINGSTON	E
<i>Alosa alabamae</i>	ALABAMA SHAD		CRITTENDEN	E
<i>Alosa alabamae</i>	ALABAMA SHAD		LYON	E
<i>Atractosteus spatula</i>	ALLIGATOR GAR		LIVINGSTON	E
<i>Lampetra appendix</i>	AMERICAN BROOK LAMPREY		LIVINGSTON	T
<i>Lithasia armigera</i>	ARMORED ROCKSNAIL		LYON	S
<i>Lithasia armigera</i>	ARMORED ROCKSNAIL		LIVINGSTON	S
<i>Lithasia armigera</i>	ARMORED ROCKSNAIL		CRITTENDEN	S
<i>Haliaeetus leucocephalus</i>	BALD EAGLE	Eddyville	LYON	E
<i>Hyla gratiosa</i>	BARKING TREEFROG	Dycusburg	CRITTENDEN	S
<i>Hyla gratiosa</i>	BARKING TREEFROG	Fredonia	CALDWELL	S
<i>Hyla gratiosa</i>	BARKING TREEFROG	Princeton West	CALDWELL	S
<i>Ictiobus niger</i>	BLACK BUFFALO		LYON	S
<i>Ictiobus niger</i>	BLACK BUFFALO	Eddyville	LYON	S
<i>Ictiobus niger</i>	BLACK BUFFALO	Grand Rivers	LIVINGSTON	S
<i>Nycticorax nycticorax</i>	BLACK-CROWNED NIGHT-HERON	Eddyville	LYON	T
<i>Bubulcus ibis</i>	CATTLE EGRET	Crider	CALDWELL	S
<i>Bubulcus ibis</i>	CATTLE EGRET	Eddyville	LYON	S
<i>Bubulcus ibis</i>	CATTLE EGRET	Grand Rivers	LYON	S
<i>Esox niger</i>	CHAIN PICKEREL	Eddyville	LYON	S
<i>Ichthyomyzon castaneus</i>	CHESTNUT LAMPREY		LYON	S
<i>Ichthyomyzon castaneus</i>	CHESTNUT LAMPREY		LIVINGSTON	S
<i>Ichthyomyzon castaneus</i>	CHESTNUT LAMPREY	Eddyville	LYON	S
<i>Pleurobema clava</i>	CLUBSHELL		LYON	E
<i>Pleurobema clava</i>	CLUBSHELL		LIVINGSTON	E
<i>Etheostoma proeliare</i>	CYPRESS DARTER		LIVINGSTON	T
<i>Etheostoma proeliare</i>	CYPRESS DARTER		LYON	T
<i>Dromus dromas</i>	DROMEDARY PEARLYMUSSEL		LYON	X
<i>Dromus dromas</i>	DROMEDARY PEARLYMUSSEL		LIVINGSTON	X
<i>Cyprogenia stegaria</i>	FANSHELL		LYON	E
<i>Cyprogenia stegaria</i>	FANSHELL		LIVINGSTON	E
<i>Potamilus capax</i>	FAT POCKETBOOK		LIVINGSTON	E
<i>Myotis grisescens</i>	GRAY MYOTIS		LIVINGSTON	E
<i>Myotis grisescens</i>	GRAY MYOTIS	Fredonia	CALDWELL	E
<i>Ardea herodias</i>	GREAT BLUE HERON	Crider	CALDWELL	S
<i>Ardea herodias</i>	GREAT BLUE HERON	Dycusburg	CRITTENDEN	S
<i>Ardea herodias</i>	GREAT BLUE HERON	Eddyville	LYON	S
<i>Ardea herodias</i>	GREAT BLUE HERON	Fredonia	CRITTENDEN	S
<i>Ardea herodias</i>	GREAT BLUE HERON	Grand Rivers	LIVINGSTON	S
<i>Myotis sodalis</i>	INDIANA BAT		CALDWELL	E
<i>Myotis sodalis</i>	INDIANA BAT		LIVINGSTON	E
<i>Myotis sodalis</i>	INDIANA BAT	Fredonia	CALDWELL	E
<i>Sterna antillarum athalassos</i>	INTERIOR LEAST TERN	Little Cypress	LIVINGSTON	E
<i>Acipenser fulvescens</i>	LAKE STURGEON		CRITTENDEN	E
<i>Epioblasma flexuosa</i>	LEAFSHELL		LYON	X
<i>Epioblasma flexuosa</i>	LEAFSHELL		LIVINGSTON	X
<i>Egretta caerulea</i>	LITTLE BLUE HERON	Eddyville	LYON	E
<i>Circus cyaneus</i>	NORTHERN HARRIER	Blackford	CRITTENDEN	T
<i>Plethobasus cooperianus</i>	ORANGEFOOT PIMPLEBACK		LIVINGSTON	E

<i>Pandion haliaetus</i>	OSPREY	Eddyville	LYON	T
<i>Pandion haliaetus</i>	OSPREY	Grand Rivers	LYON	T
<i>Lampsilis abrupta</i>	PINK MUCKET		LYON	E
<i>Lampsilis abrupta</i>	PINK MUCKET		LIVINGSTON	E
<i>Lampsilis abrupta</i>	PINK MUCKET	Grand Rivers	LIVINGSTON	E
<i>Lampsilis ovata</i>	POCKETBOOK		LIVINGSTON	E
<i>Lampsilis ovata</i>	POCKETBOOK	Eddyville	LYON	E
<i>Pleurobema rubrum</i>	PYRAMID PIGTOE		LYON	E
<i>Pleurobema rubrum</i>	PYRAMID PIGTOE		LIVINGSTON	E
<i>Pleurobema rubrum</i>	PYRAMID PIGTOE	Grand Rivers	LIVINGSTON	E
<i>Quadrula cylindrica cylindrica</i>	RABBITSFOOT		LIVINGSTON	T
<i>Quadrula cylindrica cylindrica</i>	RABBITSFOOT	Eddyville	LYON	T
<i>Obovaria retusa</i>	RING PINK		LIVINGSTON	E
<i>Obovaria retusa</i>	RING PINK		LYON	E
<i>Obovaria retusa</i>	RING PINK	Grand Rivers	LIVINGSTON	E
<i>Cistothorus platensis</i>	SEDGE WREN	Fredonia	LYON	S
<i>Plethobasus cyphus</i>	SHEEPNOSE		LIVINGSTON	S
<i>Myotis austroriparius</i>	SOUTHEASTERN MYOTIS		LIVINGSTON	E
<i>Notropis hudsonius</i>	SPOTTAIL SHINER	Fredonia	CRITTENDEN	S
<i>Phenacobius uranops</i>	STARGAZING MINNOW		LYON	S
<i>Epioblasma arcaeformis</i>	SUGARSPoon		LYON	X
<i>Epioblasma torulosa torulosa</i>	TUBERCLED BLOSSOM		LIVINGSTON	X
<i>Epioblasma torulosa torulosa</i>	TUBERCLED BLOSSOM		LYON	X
<i>Plethobasus cicatricosus</i>	WHITE WARTYBACK		LYON	X
<i>Plethobasus cicatricosus</i>	WHITE WARTYBACK		LIVINGSTON	X

Wilson, Jimmy (KYTC)

From: Potter, Linda (EPPC, DNR)
Sent: Tuesday, November 09, 2004 8:40 AM
To: Wilson, Jimmy (KYTC)
Subject: FW: Transportation Study for US 641 in Lyon and Caldwell Counties

Hello, Jim. Here is the email as promised. Would you like another letter as well? Thanks..Linda

-----Original Message-----

From: Collings, Kim (EPPC, DNR)
Sent: Friday, November 05, 2004 4:28 PM
To: Potter, Linda (EPPC, DNR)
Subject: RE: Transportation Study for US 641 in Lyon and Caldwell Counties

The proposed project is located in an area of known oil and gas exploration activity. Oil and gas wells may be encountered in this area and the oil and gas operators may need to be contacted in order to work out any possible impact.

Thanks

Kim

-----Original Message-----

From: Potter, Linda (EPPC, DNR)
Sent: Tuesday, September 21, 2004 11:40 AM
To: Collings, Kim (EPPC, DNR); Davis, Mark J (EPPC, DNR); Eddins, Mary Jean (EPPC, DNR); Hohmann, Steve (EPPC, DSMRE); MacSwords, Leah (EPPC, DNR); McCoy, Holly (EPPC, DNR); Smith, Keith (EPPC, DSMRE); Wahrer, Richard (EPPC, DSMRE)
Subject: Transportation Study for US 641 in Lyon and Caldwell Counties

Here's another one for us. If you did not receive the beautiful maps, just give me a call and I will get them to you. Thanks....Linda

Linda Potter
Department for Natural Resources
663 Teton Trail
Frankfort, Kentucky 40601
linda.potter@ky.gov
502-564-2184

ERNIE FLETCHER
GOVERNOR



LAJUANA S. WILCHER
SECRETARY

DIV OF PLANNING

2004 OCT -4 A 11: 12

COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY
803 SCHENKEL LN
FRANKFORT, KY 40601-1403

September 29, 2004

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Station W5-05-01
Frankfort, Kentucky 40622

Dear Ms. Coffey,

The Division has reviewed the Planning Study for evaluating alternatives for the proposed reconstruction or relocation of US 641 from Eddyville in Lyon County to Fredonia in Caldwell County. The following Kentucky Administrative Regulations apply to this proposed project:

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/e_clearinghouse.html.

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet incorporated by reference in 401 KAR 63:005 Section 3, Prohibition of Open Burning. The Fact Sheet is located at http://www.air.ky.gov/e_clearinghouse.html.

Finally, the projects listed in this document must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of United States Code.



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Ms. Annette Coffey Letter
September 29, 2004
Page 2

Every effort should be made to maintain compliance with the preceding regulations and requirements. The Division also suggests an investigation into compliance with applicable regulations in the local governments. If there are any questions relating to this matter, please contact me at (502) 573-3382 extension 347.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Gowins". The signature is fluid and cursive, with a large initial "J" and "G".

John E. Gowins
Supervisor, Evaluation Section
Program Planning & Administration Branch

JEG/jmf

ERNIE FLETCHER
GOVERNOR



LAJUANA S. WILCHER
SECRETARY

COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR NATURAL RESOURCES
FRANKFORT, KENTUCKY 40601
SUSAN C. BUSH
COMMISSIONER

October 18, 2004

Annette Coffey, P.E., Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Station W5-05-01
Frankfort, KY 40601

RE: Planning Study
Lyon and Caldwell Counties
U.S. 641, Reconstruction or Relocation from Eddyville to Fredonia

Dear Ms. Coffey:

Thank you for the opportunity to review and comment on the above referenced proposed highway construction project.

Personnel from our department's field offices have conducted a review of the information provided and have identified one active rock quarry in this area. The quarry is located between KY 91 and U.S. 641 South of Fredonia. (Latitude 37 degrees 10' 32" Longitude 88 degrees 01' 48") This quarry is permitted by Martin Marietta Materials, Inc. (017-9403) and generates a substantial amount of traffic in this area.

If I, or my staff can be of any further assistance in this or any matter, please don't hesitate to contact me at (502) 564-6940.

Sincerely,

A handwritten signature in cursive script that reads "Susan Bush".

Susan Bush
Commissioner

SB/JM/aw

DIV OF PLANNING
2004 OCT 20 A 11:03



KENTUCKY TRANSPORTATION CABINET
FRANKFORT, KENTUCKY 40622
WWW.KENTUCKY.GOV

DIV OF PLANNING

2004 SEP 23 P 2:19

ERNIE FLETCHER
GOVERNOR

MAXWELL C. BAILEY
SECRETARY

MEMORANDUM

TO: Annette Coffey
Director
Division of Planning

FROM: M. Chad LaRue *mcl*
Branch Manager
Permits

DATE: September 20, 2004

RE: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from Eddyville to Fredonia

The Permits Branch has reviewed the data provided for subject study site and wish to offer the following.

1. We urge the Cabinet to classify this project as partially controlled access facilities.
2. Assuming the project is partial control access, we encourage all possible access points be set on the plans in accordance with 603 KAR 5:120, even if they are not to be constructed at that time.
3. When buying R/W for this, assuming the access control is partial control, new deeds for all adjoining property owners need to be executed to identify the access control even if no new R/W is acquired.
4. In addition, we would like to make every effort possible to have the design speed to be the same as anticipated posted speed when the project is complete.
5. We would like to see access control fence installed with the project.
6. Please notify this office if the proposed roadway is to be placed on the National Highway System (NHS). This information is needed to assist this office in regulating the installation of any outdoor advertising device.
7. If the proposed roadway is to be on the NHS, early notification of the final line and grade is needed. This enables us to monitor outdoor advertising devices prior to road construction being completed.

Thank you for the opportunity to verbalize our concerns.

MCL/elc



ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

DIVISION OF CONSERVATION
663 TETON TRAIL
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-3080 FAX (502) 564-9195
www.kentucky.gov

LAJUANA S. WILCHER
SECRETARY

STEPHEN A. COLEMAN
DIRECTOR

October 21, 2004

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 40622

Subject: US 641 in Lyon and Caldwell Counties

Dear Ms. Coffey:

As requested, the Division of Conservation has reviewed the proposed reconstruction and/or relocation of US 641 from Eddyville to Fredonia and would like to provide the following comments and express concerns that may help in the initial data-gathering stage.

There are no agricultural districts established in the project area, therefore land enrolled in the Agricultural District Program will not have to be mitigated by the Department of Transportation.

We would like to see the issue of the loss of farmland addressed. Both prime farmland and farmland of statewide importance could be impacted by this project. Every year pressure imposed by utility right-of-ways, urban expansion, and new roads reduce the land available for agricultural use in the Commonwealth. There are three documents that could be utilized to identify these farmland designations: the *Soil Survey of Lyon and Trigg Counties (NRCS 1981)*, the *Soil Survey of Caldwell County (NRCS 1966)*, and *Important Farmland Soils of Kentucky (NRCS 1981)*. This information is available through our office or the offices of Lyon and Caldwell County Conservation Districts. The soil survey information for Lyon County can also be downloaded at the following web site: <http://soildatamart.nrcs.usda.gov/>.

One other concern we would like to comment on is the control of erosion and sedimentation during and after earth-disturbing activities once this project begins. We recommend best management practices (BMPs) be utilized to prevent nonpoint source water pollution. This would protect the water quality and aquatic habitat of several perennial and intermittent streams that this project could impact.

DIV OF PLANNING
OCT 25 P 12:12

Ms. Annette Coffey, P.E.

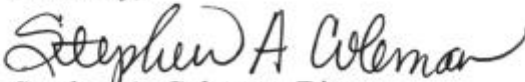
October 21, 2004

Page Two

The manual, *Best Management Practices for Construction Activities*, contains information on the kinds of BMPs most appropriate for this project and is available through the Lyon and Caldwell County Conservation Districts or this office. Also an electronic version of the *Kentucky Erosion Prevention and Sediment Control Field Guide* is available online at <http://www.water.ky.gov/sw/nps/Publications.htm>

We appreciate the opportunity to comment on this project. If you have any questions, please contact this office any time.

Sincerely,

A handwritten signature in cursive script that reads "Stephen A. Coleman".

Stephen A. Coleman, Director
Kentucky Division of Conservation

SAC/ah

Enclosure

Wilson, Jimmy (KYTC)

From: Houlihan, John (KYTC)
Sent: Thursday, September 23, 2004 11:14 AM
To: Wilson, Jimmy (KYTC)
Subject: Planning Study for US 641

Mr. Wilson,

I have reviewed the proposed locations and have found that these will have no adverse affect to air navigation. However if construction equipment exceeds 200 feet above ground level, then a permit will have to be issued by this office.

If you have any questions, let me know.



U.S. Department
of Transportation
**Federal Aviation
Administration**

DIV OF PLANNING

2004 SEP 30 P 12: 12

Airports District Office, FAA
3385 Airways Blvd., Suite 302
Memphis, Tennessee 38116-3841
(901) 544-3495 FAX: (901) 544-4243
Email: 7-aso-mem-ado@faa.gov

September 28, 2004

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Station W5-05-01
Frankfort, KY 40622

Dear Ms. Coffey:

Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from
Eddyville to Fredonia

I am writing to comment on the subject project that was described in your letter dated September 15, 2004.

As long as construction activities do not exceed 200 feet in height above the ground level, there will be no impacts on FAA programs and no notice of proposed construction will be required.

Thank you for the opportunity to comment on the proposed highway project.

Sincerely,

Cynthia K. Wills
Program Manager



DIV OF PLANNING

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30341-3724

2004 OCT 22 A 11: 34

October 20, 2004

Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 40622

Dear Ms. Coffey:

This is in response to your letter of September 15, 2004 requesting our agency's input and comments on a planning study to determine the need for, and the potential impacts from possible reconstruction or relocation of US 641 from Eddyville in Lyon County to Fredonia in Caldwell County. We are responding on behalf of the Department of Health and Human Services (DHHS), U.S. Public Health Service.

While we have no project specific comments to offer at this time, we do recommend that the topics listed below be considered during the NEPA process along with other necessary topics, and addressed if appropriate. Mitigation plans which are protective of the environment and public health should be described in the DEIS wherever warranted.

AREAS OF POTENTIAL PUBLIC HEALTH CONCERN:

I. Air Quality

- dust control measures during project construction, and potential releases of air toxins
- potential process air emissions after project completion
- compliance with air quality standards

II. Water Quality/Quantity

- special consideration to private and public potable water supply, including ground and surface water resources
- compliance with water quality and waste water treatment standards
- ground and surface water contamination (e.g. runoff and erosion control)
- body contact recreation

III. Wetlands and Flood Plains

- potential contamination of underlying aquifers
- construction within flood plains which may endanger human health
- contamination of the food chain

IV. Hazardous Materials/Wastes

- identification and characterization of hazardous/contaminated sites
- safety plans/procedures, including use of pesticides/herbicides; worker training
- spill prevention, containment, and countermeasures plan

V. Non-Hazardous Solid Waste/Other Materials

- any unusual effects associated with solid waste disposal should be considered

VI. Noise

- identify projected elevated noise levels and sensitive receptors (i.e. residential, schools, hospitals) and appropriate mitigation plans during and after construction

VII. Occupational Health and Safety

- compliance with appropriate criteria and guidelines to ensure worker safety and health

VIII. Land Use and Housing

- special consideration and appropriate mitigation for necessary relocation and other potential adverse impacts to residential areas, community cohesion, community services
- demographic special considerations (e.g. hospitals, nursing homes, day care centers, schools)
- consideration of beneficial and adverse long-term land use impacts, including the potential influx of people into the area as a result of a project and associated impacts
- potential impacts upon vector control should be considered

IX. Environmental Justice

- federal requirements emphasize the issue of environmental justice to ensure equitable environmental protection regardless of race, ethnicity, economic status or community, so that no segment of the population bears a disproportionate share of the consequences of environmental pollution attributable to a proposed project. (Executive Order 12898)

While this is not intended to be an exhaustive list of possible impact topics, it provides a guide for typical areas of potential public health concern which may be applicable to this project. Any health related topic which may be associated with the proposed project should receive consideration when developing the draft and final EISs. Please furnish us with one copy of the draft document when it becomes available for review.

Sincerely yours,



Paul Joe, DO, MPH
Medical Officer
National Center for Environmental Health (F16)
Centers for Disease Control & Prevention

RICHIE FARMER
COMMISSIONER



OFFICE TELEPHONE
(502) 564-5128
FAX: (502) 564-5016
TTY: (502) 564-2075

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF AGRICULTURE
OFFICE OF THE COMMISSIONER
CAPITOL ANNEX, SUITE 188
FRANKFORT, KY 40601

October 14, 2004

Ms. Annette Coffey, P.E.
Director
Division of Planning
Kentucky Transportation Cabinet
W5-05-01
200 Mero Street
Frankfort, Kentucky 40622

RE: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from Eddyville to Fredonia

Dear Ms. Coffey:

Please be advised that this agency has no specific concerns or issues concerning the above-noted project.

Yours truly,

A handwritten signature in cursive script, appearing to read "Ann Stewart".

Ann Stewart
Staff Assistant

DIV OF PLANNING
2004 OCT 18 A 11:20



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF MILITARY AFFAIRS
OFFICE OF THE ADJUTANT GENERAL
BOONE NATIONAL GUARD CENTER
FRANKFORT, KENTUCKY 40601-6168



October 8, 2004

Annette Coffey
P.E., Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, Station W50-05-01
Frankfort, Ky. 40622

Dear Ms. Coffey,

Subject: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from Eddyville to Fredonia

Pursuant to your September 18, 2004 letter, we have reviewed the project. There are no issues or concerns that impact this agency.

Sincerely,

Julius L. Berthold, BG (Ret)
Executive Director
Office of Management and Administration
Department of Military Affairs

c: Joseph Sanderson

DIV OF PLANNING
2004 OCT 12 A 10:56



ERNIE FLETCHER
GOVERNOR

DEPARTMENT OF PARKS
COMMERCE CABINET
CAPITAL PLAZA TOWER
500 MERO STREET, 11TH FLOOR
FRANKFORT, KENTUCKY 40601-1974
PHONE (502) 564-2172 FAX (502) 564-9015
parks.ky.gov

W. JAMES HOST
SECRETARY
COMMERCE CABINET

GEORGE WARD
COMMISSIONER
DEPARTMENT OF PARKS

October 7, 2004

Ms. Annette Coffey, P.E., Director
Division of Planning
Kentucky Transportation Cabinet
W5-05-01
200 Mero Street
Frankfort, Kentucky 40622

Re: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction/Relocation

Dear Ms. Coffey:

The Department of Parks has reviewed your correspondence to me regarding the subject. The study will not directly impact any of our facilities. I would like to state in general that our Agency's mission is protecting the environment associated with our facilities and we are certainly concerned about environmental impacts for the entire Commonwealth.

I appreciate you seeking our Agency's comments on this project.

Sincerely:

A handwritten signature in dark ink, appearing to read "G Ward".

Mr. George Ward, Commissioner
Kentucky Department of Parks

C: John Drake

DIV OF PLANNING
2004 OCT 13 A 11:19



ERNIE FLETCHER
GOVERNOR

COMMONWEALTH OF KENTUCKY
JUSTICE AND PUBLIC SAFETY CABINET
KENTUCKY VEHICLE ENFORCEMENT
FRANKFORT, KY 40601

LT. GOV. STEPHEN B. PENCE
SECRETARY

GREG HOWARD
COMMISSIONER

November 8, 2004

Ms. Annette Coffey, P.E.
Division of Planning
Transportation Cabinet
200 Mero Street
Frankfort, KY 40622

Dear Ms. Coffey:

We are in receipt of your letter requesting any input that Kentucky Vehicle Enforcement might have to the reconstruction or relocation of US 641 from Eddyville to Fredonia in Lyon and Caldwell counties.

After having my staff research the matter, we can see there would be no concerns from a vehicle enforcement stand point.

If you need any further information, please do not hesitate to let us know.

Sincerely,

A handwritten signature in black ink, appearing to read "Greg Howard", written over a horizontal line.

Greg Howard
Commissioner
Department of Kentucky Vehicle Enforcement

DIV OF PLANNING
2004 NOV -9 P 1:56

Wilson, Jimmy (KYTC)

From: Blevins, Mike L (KYTC-WSC)
Sent: Wednesday, September 29, 2004 11:06 AM
To: Jimmy Wilson
Subject: Lyon / Caldwell Counties US 641 From Eddyville - Fredonia

Jim,

The branch has no further comments concerning the project at this time. A review was completed by the Branch in November 2003. Please refer to report P-11-03.

If there are any questions, please advise.

Wilson, Jimmy (KYTC)

From: Harman, Charles L (WFD-FK)
Sent: Monday, September 20, 2004 10:13 AM
To: Wilson, Jimmy (KYTC)
Cc: Coffey, Annette (KYTC)
Subject: Planning Study - US 641 Lyon and Caldwell Counties

Jimmy,

I have reviewed the subject material for the Education Cabinet and we have no comments to offer at this time.

ch

Charlie Harman
Office of Budget and Administrative Services
Education Cabinet
502.564.6606

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DIV OF PLANNING



R&W
SF _____

2004 OCT 25 P 12: 22

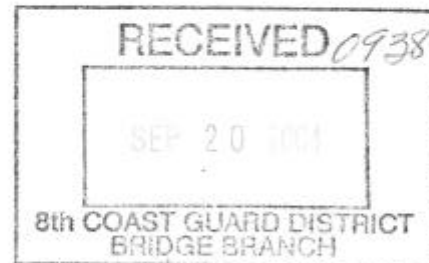
KENTUCKY TRANSPORTATION CABINET
FRANKFORT, KENTUCKY 40622
WWW.KENTUCKY.GOV

ERNIE FLETCHER
GOVERNOR

MAXWELL C. BAILEY
SECRETARY

September 15, 2004

Mr. Roger Wiebusch
Bridge Administrator
United States Coast Guard, Bridge Branch
1222 Spruce Street
St. Louis MO 63103



Dear Mr. Wiebusch:

Subject: Planning Study
Lyon and Caldwell Counties
US 641, Reconstruction or Relocation from
Eddyville to Fredonia

We are requesting your agency's input and comments on a planning study to determine the need and potential impacts for a proposed highway project. The Kentucky Transportation Cabinet has assembled a study team to evaluate the proposed reconstruction or relocation of US 641 from Eddyville in Lyon County to Fredonia in Caldwell County. The study is currently in the initial data-gathering stage and preliminary alternative corridors have been identified.

We ask that you identify specific issues or concerns of your agency that could affect the development of the project. This planning study will include a scoping process for the early identification of potential alternatives, environmental issues, and impacts related to the proposed project. We believe that early identification of issues or concerns can help us develop highway project alternatives to avoid or minimize negative impacts.

We respectfully ask that you provide us with your comments by October 22, 2004, to ensure timely progress in this planning effort.

During the development of this planning study, comments will be solicited from federal, state, and local agencies, as well as other interested persons and the general public, in accordance with principles set forth in the National Environmental Policy Act (NEPA) of 1969. The Federal Highway Administration is partnering with us in these efforts. A copy of a public notice placed in state in local newspapers concerning this project is attached.

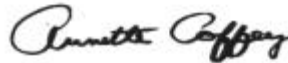
Other Transportation Cabinet offices or consultants working on behalf of the Transportation Cabinet may also contact you seeking more detailed data or information to assist them in completing their environmental studies for this phase of the project.

We have enclosed the following project information for your review and comment:

- A project brochure, which includes:
 - Preliminary Project Goals
 - Environmental Overview Map
 - Year 2003 Traffic and Level of Service
 - Year 2025 Traffic and Level of Service
 - Vehicle Crash Information
- Proposed Alternative Corridors (Level 2) Map

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Jim Wilson of the Division of Planning at 502/564-7183 or at Jimmy.Wilson@ky.gov. Please address all written correspondence to Annette Coffey, P.E., Director, Division of Planning, Kentucky Transportation Cabinet, 200 Mero Street, Station W5-05-01, Frankfort, KY 40622.

Sincerely,



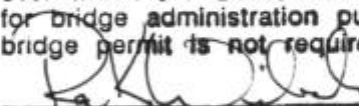
Annette Coffey, P.E.
Directors
Division of Planning

ACJCW:NH

Enclosures

c: Jose Sepulveda (w/e)
Glenn Jilek (w/e)
Mary Murray (w/e)
Carl Dixon
Dan Bozarth
Craig Morris
Edward Merryman
David Waldner
Tim Choate
Everett Green
Allen Thomas
Kevin McClearn
Jim Simpson
Richard Davis
C. D. Palmer

Pursuant to the Coast Guard Authorization Act of 1982, it has been determined this is not a waterway over which the Coast Guard exercises jurisdiction for bridge administration purposes. A Coast Guard bridge permit is not required.



ROGER K WIEBUSCH
Bridge Administrator
Eighth Coast Guard District (obr)

10/18/04

(Date)