



**PROGRAMMING STUDY
US 60
UNION COUNTY
STURGIS TO MORGANFIELD
ITEM 2-8102.00**



Prepared by the
KENTUCKY TRANSPORTATION CABINET
DIVISION OF PLANNING
June, 2004

**EXECUTIVE SUMMARY
PROGRAMMING STUDY
US 60
UNION COUNTY
STURGIS TO MORGANFIELD
ITEM NO. 4-8102.00**

The project termini are defined as US 60 from milepoint 5.671 (the intersection with KY 109 (Main Street) in Sturgis) to milepoint 16.339 (the intersection with KY 56 (Main Street) in Morganfield). The major part of any reconstruction of this roadway segment is expected to consist of a four-lane roadway with paved shoulders and a median; curb and gutter with sidewalks should be considered for the portions of the roadway that pass through Sturgis and Morganfield. The length of the project along the existing road is 10.7 miles.

Current year traffic ranges from about 4500 vehicles per day just west of Morganfield to more than 8500 vehicles per day within the City of Morganfield. Projected future year (2030) average daily traffic volumes range from about 8700 vehicles just west of Morganfield to nearly 17000 vehicles per day within the City of Morganfield.

The primary goals of this project are to provide corridor and system connectivity between recent and planned future improvements to US 60 from Paducah to Henderson; to increase capacity to handle existing and projected future traffic volumes; to improve safety by correcting horizontal and vertical curvature deficiencies and by providing lane and shoulder widths that meet current standards; and to enhance the regional and local transportation network by improving access to schools and the hospital.

The first priority segment should begin at the Morganfield Bypass and extend westward to the junction with KY 950, a distance of 4.9 miles. The second priority segment would begin at the junction with KY 950 and terminate at the junction with KY 270 west, a distance of 3.3 miles. The exact termini of the third priority section would not be determined until such time that a final Kentucky Transportation Cabinet decision has been made concerning a bypass of Sturgis. The fourth priority segment would begin at Main Street in Morganfield (MP 16.339) and terminate at the Morganfield Bypass (MP 15.412).

Estimated costs are shown in Table ES-1.

**TABLE ES-1
COST DATA BY RECOMMENDED SECTION**

Priority Segment	1	2	3	4
Development Characteristic	Primarily Rural	Rural	Urban Fringe	Urban
Western MP	10.515	7.197	5.671 ⁽²⁾	15.412
Eastern MP	15.412	10.515	7.197	16.339
Length	4.897	3.318	1.526	0.927
Preliminary Design/Location Approval	\$0.50 ⁽¹⁾	\$0.35	\$0.15	\$0.25
Final Design	\$1.50	\$1.00	\$0.40	\$0.40
R/W Acquisition	\$5.00	\$3.50	\$2.50	\$1.50
Utility Relocation	\$3.00	\$2.00	\$2.00	\$1.30
Construction	\$23.00	\$15.00	\$8.40	\$5.10
Total Cost	\$33.00	\$21.85	\$13.45	\$8.55
Total Cost per Mile	\$6.74	\$6.59	\$8.81	\$9.22

(1) All Costs in Millions; (2) Assumed to be junction with KY 109 for cost estimating purposes only.

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**PROGRAMMING STUDY
US 60
UNION COUNTY
STURGIS TO MORGANFIELD
ITEM NO. 2-8102.00**

I. INTRODUCTION

A. Study Purpose

The purpose of this Programming Study was to: (a) evaluate US 60 from Sturgis to Morganfield and determine possible alternatives to improve safety and traffic flow that can be used for future programming documents; (b) provide data to be used when and if the project enters the design phase; (c) provide background information that can be utilized in the National Environmental Policy Act (NEPA) documentation for the project. Tasks undertaken as part of this effort included:

- Identifying project goals and issues
- Defining the need for the project
- Determining project termini and potential corridors
- Describing the conditions along the existing roadway
- Identifying preliminary environmental concerns
- Estimating the project costs
- Identifying priority segments for future programming activities
- Initiating contact with public officials and agencies

One of the steps in this process was the collection of technical and resource agency input concerning the project. This was accomplished by:

- Compiling information from existing data and reports
- Establishing a project team to provide direction and review for the study
- Coordinating with resource agencies and local officials

Information thus collected was evaluated to accomplish the following:

- Evaluate the project description and logical termini
- Address the geometrics, level of service, vehicle crashes, and other issues that are influencing the project
- Address, in general terms, the project design criteria
- Document known environmental concerns
- Develop a draft statement of project goals

B. Programming and Schedule

The project is described in the 2002 Kentucky Six-Year Highway Plan (FY 2003-2008) as a "Planning Study To Construct 4-Lanes on US 60 from Sturgis to Morganfield". No future project phases are defined or scheduled at this time.

II. PROJECT LOCATION, EXISTING CONDITIONS, AND TRAFFIC

A. Project Location

The project termini, as described in the 2002 Kentucky Six-Year Highway Plan (see previous paragraph), were quite specific: from milepoint 5.671 (the intersection with KY 109 (Main Street) in Sturgis) to milepoint 16.339 (the intersection with KY 56 (Main Street) in Morganfield).

B. Existing Highway Features

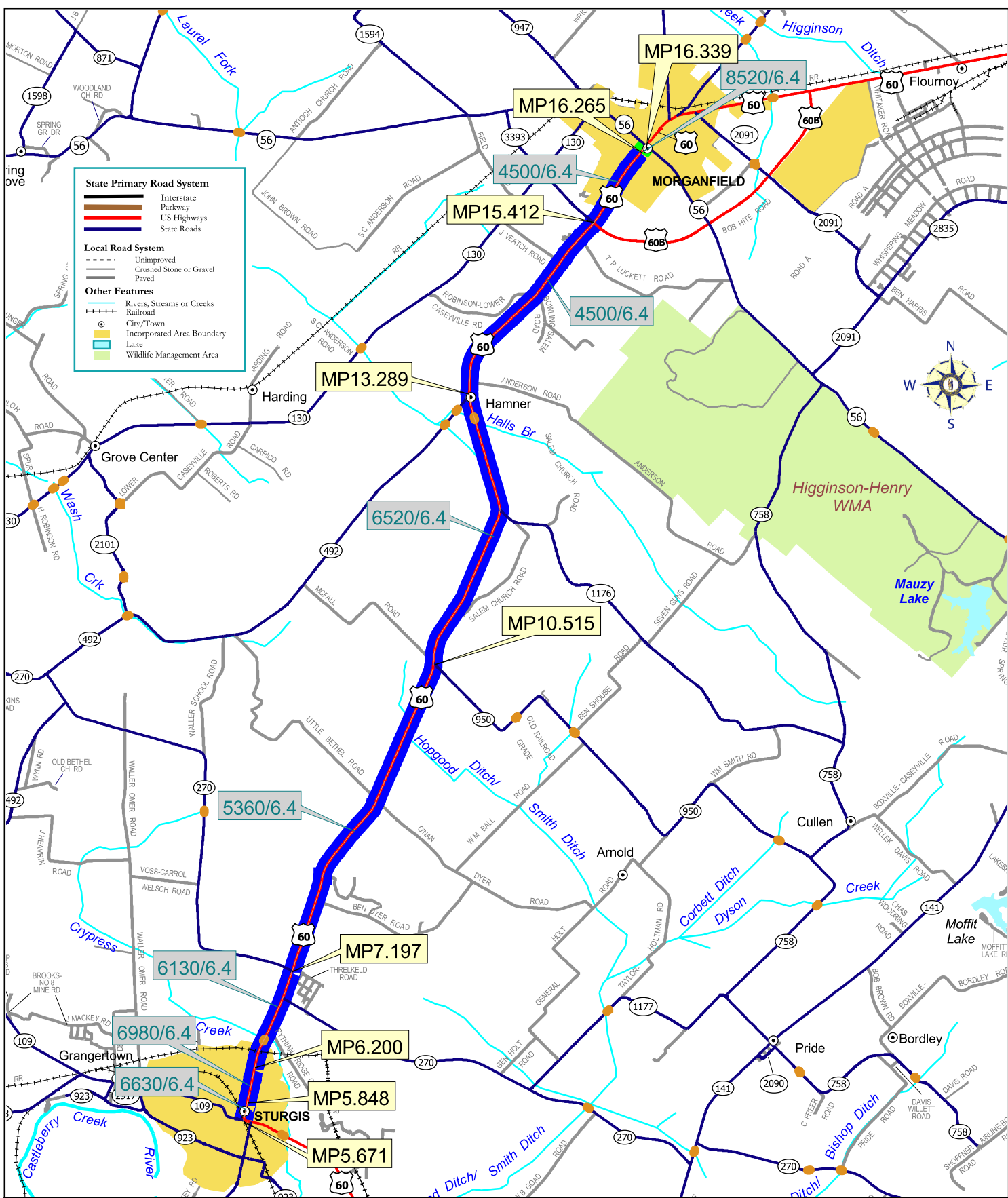
Data on the existing conditions along US 60 were taken from the Division of Planning's Highway Information System (HIS) database. The US 60 corridor is located in generally rolling terrain. Passing sight distance varies from zero percent to ninety percent with a weighted average of fifty-seven percent. There are thirty-five horizontal curves along this roadway segment as shown in Table 1, two of which are 3.5 degrees or greater and another seven of which are between 2.5 degrees and 3.4 degrees. Further, there are twenty-seven vertical curves along this roadway segment as shown in Table 2, nine with approach grades greater than 2.5 percent.

US 60 in the study segment is an undivided two-lane highway with lane widths ranging from 11 to 14 feet as shown in Table 3. The shoulder width is generally three feet except for curbed segments and a few very short segments with ten-foot widths. The driving surface is a high flexible pavement except for a short segment in Sturgis that is a reinforced jointed rigid pavement; the flexible pavement sections have all been resurfaced within the past five years. Widths of existing rights-of-way currently held by the Kentucky Transportation Cabinet range from 60 to 150 feet as shown in Table 4. There are two structures in the study segment of US 60 with data on these bridges shown in Table 5. Both structures have bridge sufficiency ratings above 82, meaning that neither is considered in need of replacement; hence neither is eligible for replacement funding. Finally, neither of these bridges has historical significance.

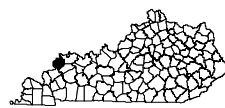
**TABLE 1
HORIZONTAL CURVES**

	Begin MP	End MP	Degree of Curve (Range)
1	5.68	6.25	0.0 - 0.4 DEGREES
2	6.25	6.40	2.5 - 3.4 DEGREES
3	6.40	6.80	0.0 - 0.4 DEGREES
4	6.80	7.00	1.5 - 2.4 DEGREES
5	7.00	8.00	0.0 - 0.4 DEGREES
6	8.00	8.10	2.5 - 3.4 DEGREES
7	8.10	8.20	0.0 - 0.4 DEGREES
8	8.20	8.35	2.5 - 3.4 DEGREES
9	8.35	8.60	0.0 - 0.4 DEGREES
10	8.60	8.70	0.5 - 1.4 DEGREES
11	8.70	8.95	0.0 - 0.4 DEGREES
12	8.95	9.10	3.5 - 4.4 DEGREES
13	9.10	10.40	0.0 - 0.4 DEGREES
14	10.40	10.50	2.5 - 3.4 DEGREES
15	10.50	10.60	0.0 - 0.4 DEGREES
16	10.60	10.65	2.5 - 3.4 DEGREES
17	10.65	10.75	0.0 - 0.4 DEGREES
18	10.75	10.80	3.5 - 4.4 DEGREES
19	10.80	11.10	0.0 - 0.4 DEGREES
20	11.10	11.25	2.5 - 3.4 DEGREES
21	11.25	12.10	0.0 - 0.4 DEGREES
22	12.10	12.25	2.5 - 3.4 DEGREES
23	12.25	13.20	0.0 - 0.4 DEGREES
24	13.20	13.40	1.5 - 2.4 DEGREES
25	13.40	13.55	0.0 - 0.4 DEGREES
26	13.55	13.85	1.5 - 2.4 DEGREES
27	13.85	14.02	0.0 - 0.4 DEGREES
28	14.02	14.40	0.0 - 0.4 DEGREES
29	14.40	14.50	0.5 - 1.4 DEGREES
30	14.50	15.05	0.0 - 0.4 DEGREES
31	15.05	15.10	0.5 - 1.4 DEGREES
32	15.10	15.35	0.0 - 0.4 DEGREES
33	15.35	15.55	0.5 - 1.4 DEGREES
34	15.55	15.82	0.0 - 0.4 DEGREES
35	15.82	16.65	0.0 - 0.4 DEGREES

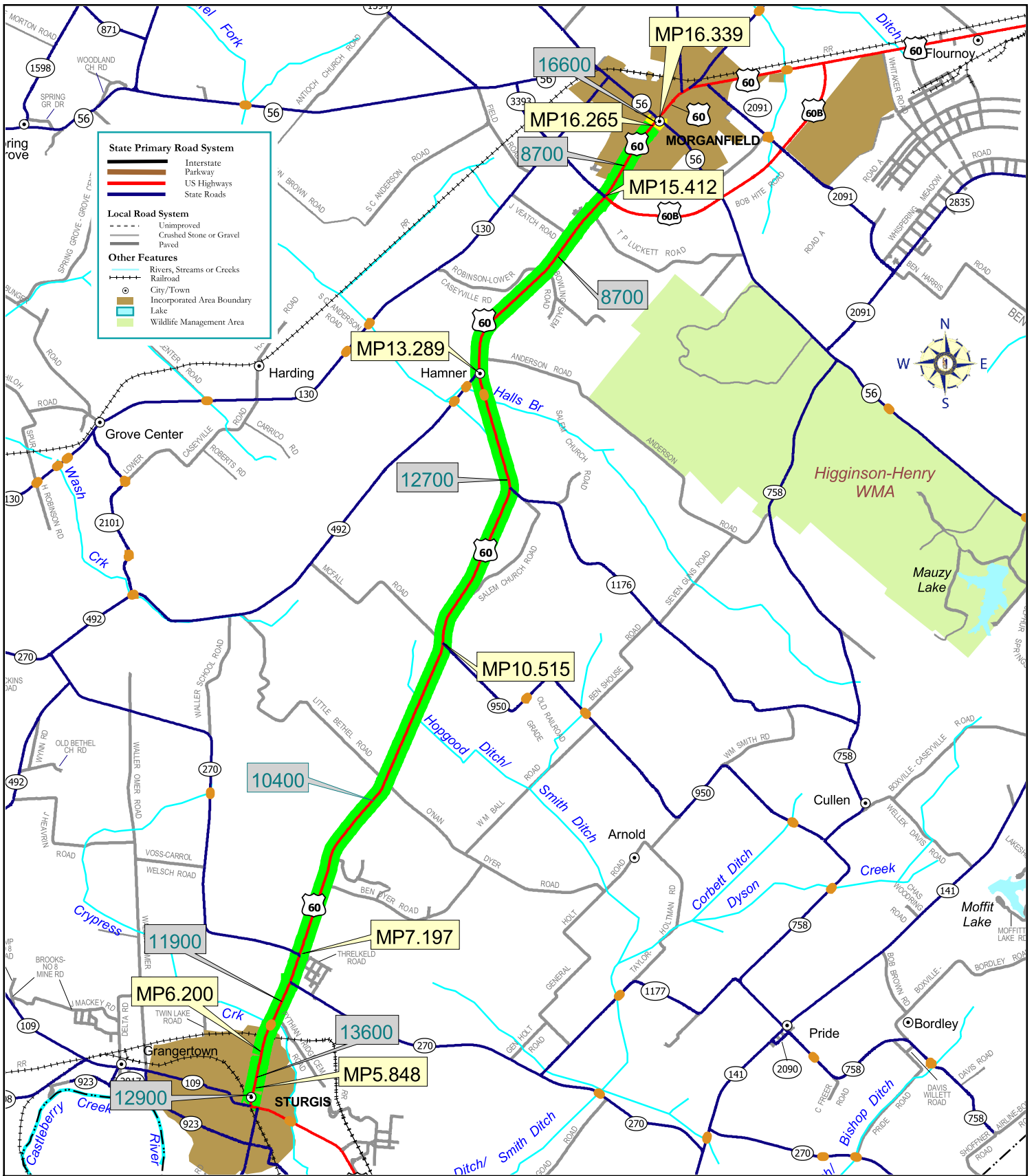
Posted speed limits along the study segment of US 60 are shown in Table 6, Roadway Adequacy Ratings are depicted in Table 7, and traffic count information is shown in Table 8. Current year traffic and level of service information is shown in Exhibit 1; future year traffic and level of service information is shown in Exhibit 2. Table 9 indicates the intersections with significant crossroads along the study segment of US 60. There is one railroad crossing within the study segment, located at MP 6.335 in Sturgis. The rail line is owned and operated by the Western Kentucky Railway, a short line operator in



1 0 1 2 Miles

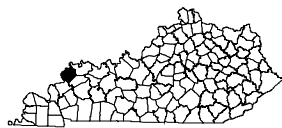


**EXHIBIT 1
YEAR 2002
TRAFFIC AND LEVEL
OF SERVICE**
Union County, US 60
From Sturgis to
Morganfield
Item No. 02-8102.00



2030 ADT

MP0.000 MILE POINT



**EXHIBIT 2
YEAR 2030
TRAFFIC AND LEVEL
OF SERVICE**

Union County
US 60
From Sturgis to
Morganfield
Item No. 02-8102.00

**TABLE 2
VERTICAL CURVES**

	Begin MP	End MP	Percent Grade (Range)
1	5.083	6.5	0.0 - 0.4 Percent
2	6.5	6.6	0.5 - 2.4 Percent
3	6.6	7.6	0.0 - 0.4 Percent
4	7.6	8.2	0.5 - 2.4 Percent
5	8.2	8.8	0.5 - 2.4 Percent
6	8.8	9.1	2.5 - 4.4 Percent
7	9.1	9.5	2.5 - 4.4 Percent
8	9.5	10.2	0.0 - 0.4 Percent
9	10.2	10.65	2.5 - 4.4 Percent
10	10.65	10.95	0.0 - 0.4 Percent
11	10.95	11.1	0.5 - 2.4 Percent
12	11.1	11.7	2.5 - 4.4 Percent
13	11.7	13.5	0.0 - 0.4 Percent
14	13.5	14.024	2.5 - 4.4 Percent
15	14.024	14.2	0.5 - 2.4 Percent
16	14.2	14.35	0.0 - 0.4 Percent
17	14.35	14.5	0.5 - 2.4 Percent
18	14.5	14.6	2.5 - 4.4 Percent
19	14.6	15	0.0 - 0.4 Percent
20	15	15.25	2.5 - 4.4 Percent
21	15.25	15.3	0.5 - 2.4 Percent
22	15.3	15.45	0.0 - 0.4 Percent
23	15.45	15.6	2.5 - 4.4 Percent
24	15.6	15.7	0.0 - 0.4 Percent
25	15.7	15.824	2.5 - 4.4 Percent
26	15.824	16.1	0.0 - 0.4 Percent
27	16.1	16.5	0.5 - 2.4 Percent

**TABLE 3
ROADWAY CROSS-SECTION**

Beginning MP	End MP	Number of Driving Lanes	Lane Width
5.671	5.742	2	14
5.742	6.763	2	12
6.763	12.989	2	11
12.989	14.024	2	12
14.024	15.984	2	11
15.984	16.295	2	12
16.295	16.429	2	12

**TABLE 4
AVERAGE RIGHT-OF-WAY WIDTH**

Beginning MP	End MP	Average Right-of-Way Width
5.671	6.763	80
6.763	12.989	60
12.989	14.024	150
14.024	17.187	60

**TABLE 5
BRIDGES**

MP	Bridge Number	Length	Width	Sufficiency Rating	Other Information
6.476	B00026	134	46	83.8	.40 MI SOU. OF JCT KY 270
13.059	B00029	107	45.7	83	.10 MI SOU. OF JCT KY 492

**TABLE 6
POSTED SPEED LIMITS**

Beginning MP	End MP	Posted Speed Limit
5.671	5.742	25
5.742	6.34	35
6.34	15.65	55
15.65	16.27	35
16.27	16.58	25

this region of the state. The principal commodity shipped along this railroad is coal. More information about this rail line can be found in the Kentucky Transportation Cabinet's 2002 Kentucky Statewide Rail Plan at this web site: <http://transportation.ky.gov/Multimodal/railsystems.htm>.

For maintenance purposes, it is classified as a State Primary Route between MP 5.671 in Sturgis and the Morganfield Bypass (MP 15.412); between the Morganfield Bypass and the intersection with KY 56 (Main Street in Morganfield, MP 16.339), the study segment of US 60 is classified as a State Secondary Route. It has a Truck Weight Class of "AAA" (80,000 pounds gross weight limit).

**TABLE 7
ROADWAY ADEQUACY RATINGS**

Beginning MP	End MP	Adequacy Rating	Adequacy Rating Percentile
5.671	5.81	64.2	72
5.81	6.17	63	68
6.17	6.34	84	99
6.34	6.763	64	71
6.763	6.921	67.3	87
6.921	7.197	67.3	87
7.197	9.045	67.3	87
9.045	10.515	67.3	87
10.515	13.289	67.3	87
13.289	14.024	68.5	92
14.024	15.412	67.3	87
15.412	15.516	65.8	78
15.516	15.824	65.8	78
15.824	15.936	65.8	78
15.936	16.27	63	68
16.27	16.339	62	63

**TABLE 8
TRAFFIC COUNT INFORMATION**

Beginning MP	End MP	Current (2003) ADT
5.671	6.921	6130
6.921	7.197	6560
7.197	10.515	5360
10.515	12.151	5590
12.151	13.289	6520
13.289	15.412	7720
15.412	16.265	9050
16.265	16.339	8260

**TABLE 9
MAJOR CROSSROADS AND RAIL CROSSINGS**

MP	Description	Functional Classification
5.671	KY 109 (Main Street in Sturgis)	Rural Major Collector
6.335	Railroad Crossing	N/A
6.921	KY 270 East	Rural Minor Collector
7.197	KY 270 West	Rural Minor Collector
10.515	KY 950	Rural Minor Collector
12.151	KY 1176	Rural Local
15.412	Morganfield Bypass	Rural Minor Arterial
16.339	KY 56 (Main Street in Morganfield)	North Side: Rural Minor Arterial South Side: Rural Major Collector

Between MP 5.671 in Sturgis and the Morganfield Bypass (MP 15.412), US 60 is a part of the State Designated portion of the National Truck Network. The study segment of US 60 is not part of the National Highway System, the Forest Highway System, the Bicycle Route System, or the National or Kentucky Scenic Byway System.

C. Highway Systems

The study segment of US 60 is functionally classified as a Rural Minor Arterial. This functional classification is used to describe highway segments that:

- Link cities and larger towns
- Are part of an integrated network providing intercounty service
- Serves mobility as a higher priority than providing access
- Serves trips that may be of relatively long distance
- Have relatively high average travel speeds with minimum interference to through movements

D. Vehicle Crash Analysis

A total of two hundred (200) vehicle crashes were recorded with valid reference points on the study segment of US 60 during the three-year period between January 1, 2000 and December 31, 2002. Sixty-eight of the crashes produced injuries to at least one person, while two crashes resulted in fatalities. Table 10 depicts a segmental analysis of the study segment of US 60. As indicated therein, there are three segments with a critical rate factor (CRF) in excess of 1.0 ⁽¹⁾. Pinpointing spots within these sections indicate two spots with a CRF in excess of 1.0. Specific crash data summaries were prepared for the three segments and two spots for which the CRF exceeded 1.0; this information is summarized in Table 11 and depicted graphically in Exhibit 3. In general terms, it appears that the typical crash along these segments and spots of the study portion of US 60 occurred during daylight hours in clear weather with a dry roadway; one vehicle "rear-ending" another on a straight and level roadway segment was the most common type of crash.

E. Traffic and Level of Service

The average daily traffic volume (ADT) in the Year 2002 varied from about 4500 vehicles per day west of Morganfield to approximately 8500 vehicles daily within Morganfield (Table 12). Year 2002 level of service is "C" except within Morganfield where it is "D". Projected future year (2030) average daily

1. The critical crash rate factor (CRF) is the quotient of the crash rate for a roadway spot or segment divided by the critical crash rate for roadway spots or sections based on the roadway type, number of lanes, and median type. The critical crash rate is the sum of the average crash rate for a given roadway type plus a factor which measures the exposure (vehicle miles of travel) to possible crashes. A critical crash rate factor greater than one is indicative of the statistical probability that crashes are not occurring randomly at the spot or in that segment.

Table 10: Segment and Spot Crash Analysis

Begin Milepoint	End Milepoint	Average Daily Traffic	Crashes				Critical Rate Factor
			Fatal	Injury	Property Damage Only	Total	
January 1, 2000 to December 31, 2002 Crash Data for Segments							
5.671	5.847	6630	0	1	4	5	0.599
5.847	6.199	6980	0	1	5	6	0.430
6.199	7.196	6130	0	3	10	13	0.466
7.196	10.514	5360	0	14	15	29	0.429
10.514	13.288	6520	1	17	25	43	0.627
13.288	15.411	4500	1	17	36	54	1.348
15.411	16.264	4500	0	11	26	37	1.902
16.264	16.339	8520	0	4	9	13	3.552
January 1, 2000 to December 31, 2002 Crash Data for Spots							
14.300	14.600	4500	0	4	5	9	0.975
14.800	15.100	4500	0	7	19	26	2.817
16.000	16.339	4980	0	10	28	38	3.843

**Table 11: Crash Analysis for Segments and Spots
Where CRF >1**

Crash Factor	Segments			Spots	
	MP 13.289- MP 15.411	MP 15.411- MP 16.264	MP 16.264- 16.339	MP 14.800- 15.100	MP 16.000- MP 16.339
<u>Weather</u>					
Clear	30	24	7	13	24
Cloudy	9	7	3	3	8
Fog	1				
Rain	13	6	3	9	6
Sleet/Hail	1			1	
<u>Roadway</u>					
Dry	39	30	9	15	30
Wet	14	7	4	10	8
Ice	1			1	
<u>Directional Analysis</u>					
One Vehicle Parked	1		1		1
Angle Collision	10	9	3	4	9
Collision in Parking Lot	6			6	
Collision with Animal	3	2			1
Collision with Fixed Object	5	1	1	2	1
Collision with Non-Fixed Object	1				
Opposing Left Turn	1	2	3	1	4
Sideswipe	3	4	2		4
Ran Off Roadway	3	1		2	
Rear End	21	18	2	11	17
Other			1		1
<u>Manner of Collision</u>					
Angle	10	9	3	3	9
Backing	2		1	2	1
Head-on	2	1		2	1
Opposing Left Turn	1	2	3	1	4
Rear End	22	18	3	9	18
Sideswipe	5	4	3	3	5
Single Vehicle	12	3		6	
<u>Light Condition</u>					
Dark	11	6	1	7	4
Dawn/Dusk	4			2	
Daylight	39	31	12	17	34
<u>Roadway Characteristics</u>					
Curve and Level	2		9	1	
Curve and Grade	1	1	2		1
Curve and Hillcrest	2	1	2	1	1
Straight and Grade	25	9		10	5
Straight and Hillcrest	4	2		3	2
Straight and Level	20	24		11	29

traffic volumes, based on an assumed annual growth rate of 2.4 percent, ranges from 8700 vehicles per day to 16,600 vehicles. These projected future year average daily traffic volumes would result in a level of service of "D" except within Morganfield where it would be "E" without any improvements. Current truck volumes are 6.4% of total vehicular traffic.

**TABLE 12
CURRENT (2002) AND PROJECTED FUTURE YEAR (2030)
AVERAGE DAILY TRAFFIC VOLUMES AND LEVEL OF SERVICE**

<u>Begin MP</u>	<u>End MP</u>	<u>2002 ADT</u>	<u>2002 Level of Service</u>	<u>Projected 2030 ADT</u>	<u>Projected 2030 Level of Service</u>
5.671	5.848	6630	C	12900	D
5.848	6.200	6980	C	13600	D
6.200	7.197	6130	C	11900	D
7.197	10.515	5360	C	10400	D
10.515	13.289	6520	C	12700	D
13.289	15.412	4500	C	8700	D
15.412	16.265	4500	C	8700	D
16.265	16.300	8520	D	16600	E

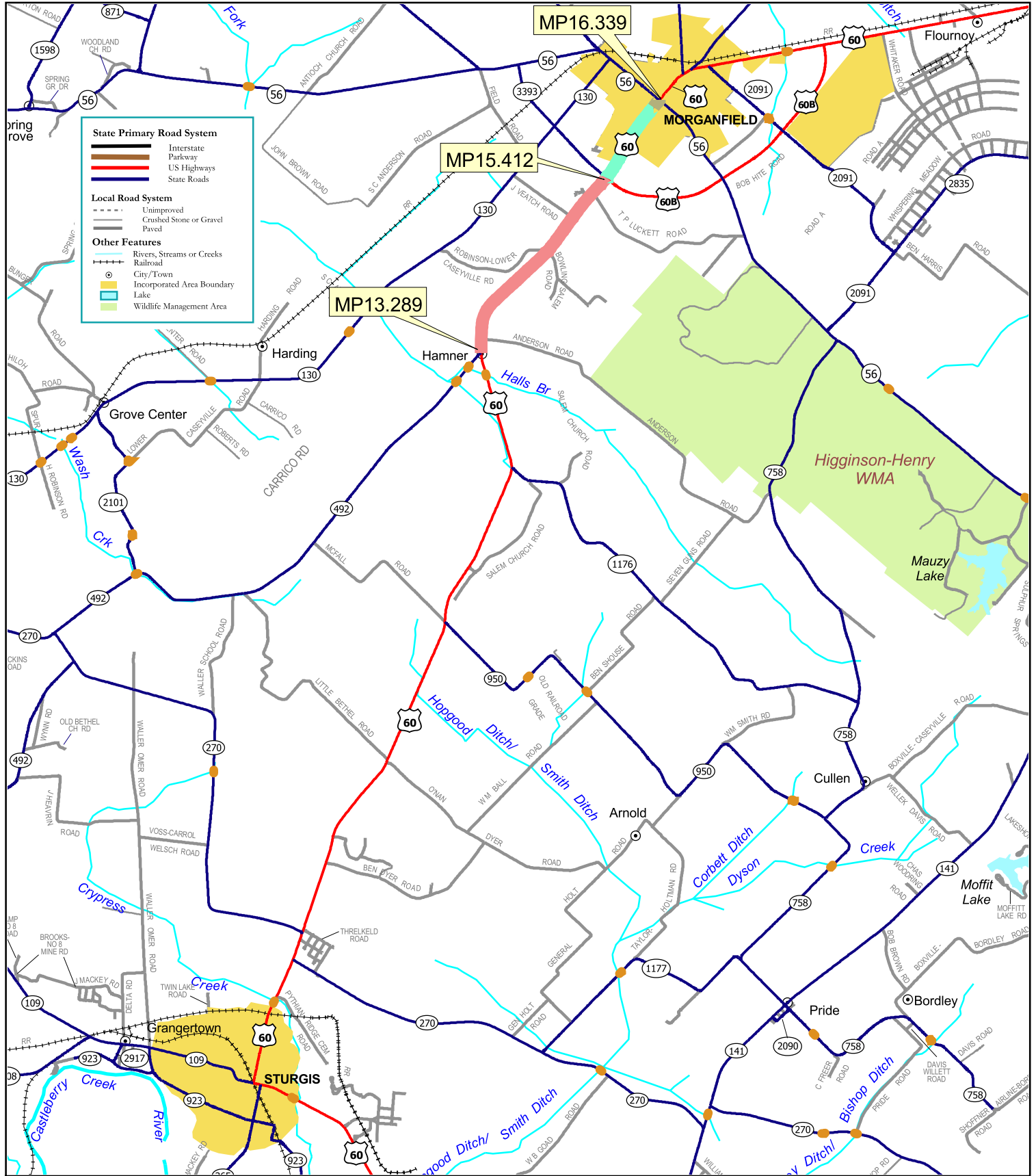
Sources: Highway Information System (HIS) Database and Highway Capacity Manual 2000

III. CABINET, PUBLIC, AND AGENCY INPUT

A. Project Team Meeting

A programming study project team meeting was conducted on April 9, 2003. The purpose of the meeting was to discuss the project and to assist in determining issues and concerns to be addressed in the study. A copy of the minutes is included in Appendix A. Issues and concerns discussed by the project team with observations and conclusions are as follows:

- The project area as defined in the 2002 Kentucky Six-Year Highway Plan is along existing US 60 from Main Street in Sturgis (KY 109) to Main Street in Morganfield (KY 56). However, it was noted that the section in Morganfield from MP 15.412 (junction with Morganfield Bypass) and MP 16.339 (Main Street in Morganfield) might be treated as a separate section in future project development phases. The project area is shown graphically in Exhibits 4 and 5.
- Traffic data (as discussed above)
- Crash data (as discussed above)
- No previous design plans have been found. However, at least two previous planning studies (excluding several planning studies for the Morganfield Bypass) have been conducted:



State Primary Road System

- Interstate
- Parkway
- US Highways
- State Roads

Local Road System

- Unimproved
- Crushed Stone or Gravel
- Paved

Other Features

- Rivers, Streams or Creeks
- Railroad
- City/Town
- Incorporated Area Boundary
- Lake
- Wildlife Management Area



HIGH ACCIDENT SEGMENTS	
	CRF 1.348
	CRF 1.902
	CRF 3.552

Crash Data: 2000 - 2002

**EXHIBIT 3
HIGH CRASH
SEGMENTS**

Union County
US 60
From Sturgis to
Morganfield
Item No 02-8102.00

MP0.000 MILE POINT

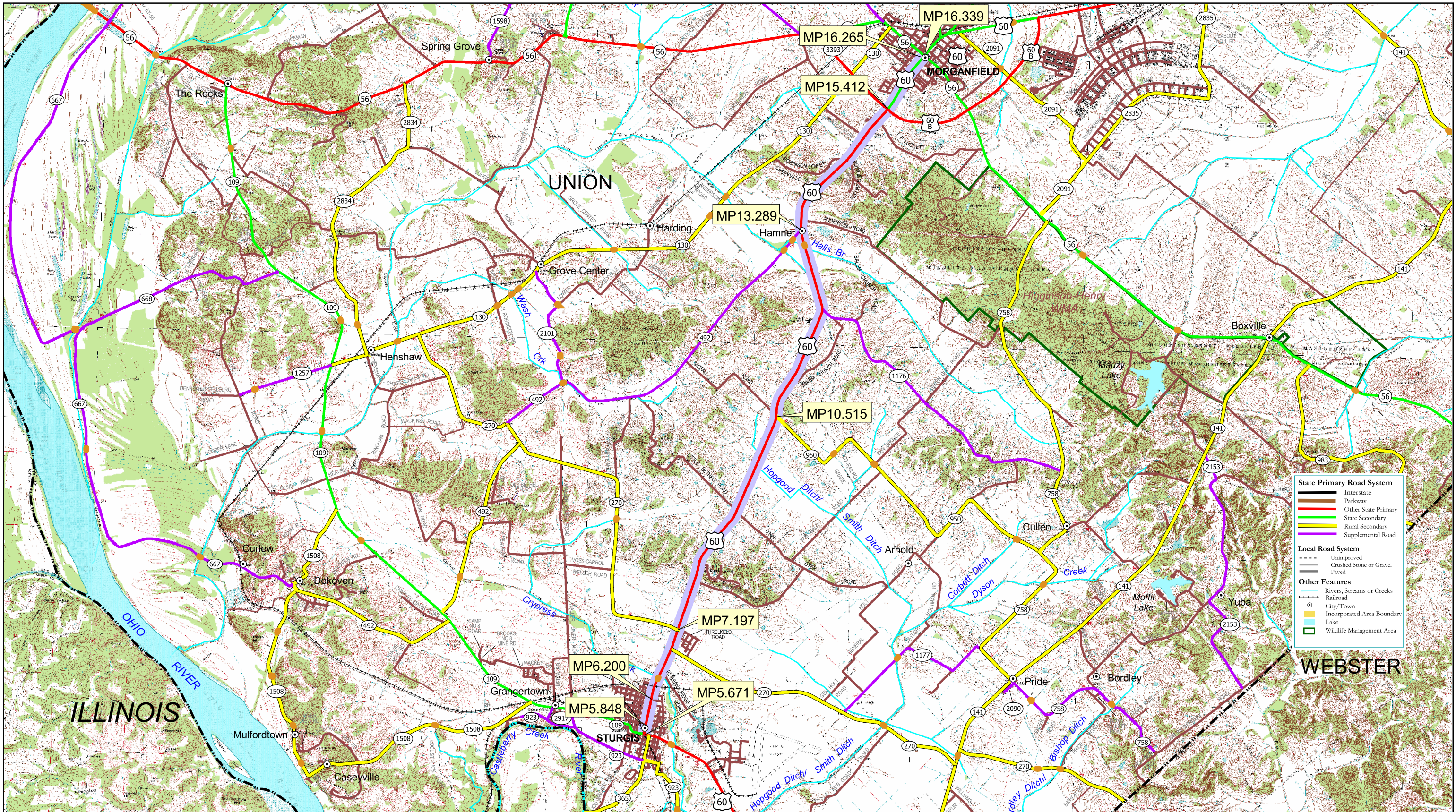
- *Project Planning Report, US 60, Paducah to Lewisport* completed in 1988 by the Division of Planning, Kentucky Transportation Cabinet. That study ranked the segments of US 60 in Union County between Sturgis and Morganfield needing improvement as follows:
 - ✓ MP 4.8 to 8.3: Ranked 8th (out of 35 segments); study recommended a bypass of Sturgis for this segment.
 - ✓ MP 8.3 to 13: Ranked 10th
 - ✓ MP 13 to 15.2: Ranked 7th

(It should be noted that the segment between MP 15.2 and 17.8 ranked as the highest priority segment of the entire route with the recommendation that a bypass of Morganfield be constructed; this has subsequently occurred.)

- *Advance Planning Study for US 60 from Paducah to Henderson* completed in 1998 by Bernardin-Lochmueller and Associates for the Division of Planning, Kentucky Transportation Cabinet. That study ranked the segments of US 60 in Union County between Sturgis and Morganfield needing improvement as follows:
 - ✓ MP 4.8 to 8.3: Ranked 7th (out of 27 segments for which no improvements were programmed at the time of that study); study recommended a bypass of Sturgis for this segment.
 - ✓ MP 8.3 to 10.5: Ranked 10th
 - ✓ MP 10.5 to 13.3: Ranked 9th
 - ✓ MP 13.3 to 15.2: Ranked 8th
- MP 15.2 to 17.8: Noted that a Morganfield Bypass was in the Six-Year Highway Plan at that time; as noted above, this has subsequently occurred.

These studies varied in their priority designation along what would become the current study segment. The 1988 study ranked the section in mid-Union County lower than the segments near Sturgis and Morganfield. The 1998 study essentially ranked the segments of US 60 in Union County from east to west in priority.

- No ITS solutions were apparent to the project team
- It was noted that the Rambling River Bike Tour is located on KY 130 adjacent to the study segment of US 60. No dedicated bicycle facilities are anticipated at this time for future US 60 project development activities, as the shoulder widths for the assumed roadway cross section would be sufficient to accommodate bicycle traffic. However, in accordance with Cabinet policy, this issue should be evaluated further during future project development phases.
- No significant property relocations had been experienced on other, nearby sections of US 60 so none were anticipated along the study segment since homes were located at some distance from the roadway. The exception to this generality would be within Sturgis, where there are also historic property concerns. It was felt that the market could easily observe whatever relocations ultimately were required.



State Primary Road System


- Interstate
- Parkway
- Other State Primary
- State Secondary
- Rural Secondary
- Supplemental Road


Local Road System

- Unimproved
- Crushed Stone or Gravel
- Paved

Other Features

- Rivers, Streams or Creeks
- Railroad
- City/Town
- Incorporated Area Boundary
- Lake
- Wildlife Management Area

 STUDY CORRIDOR

 MILE POINT

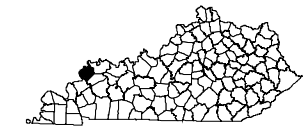
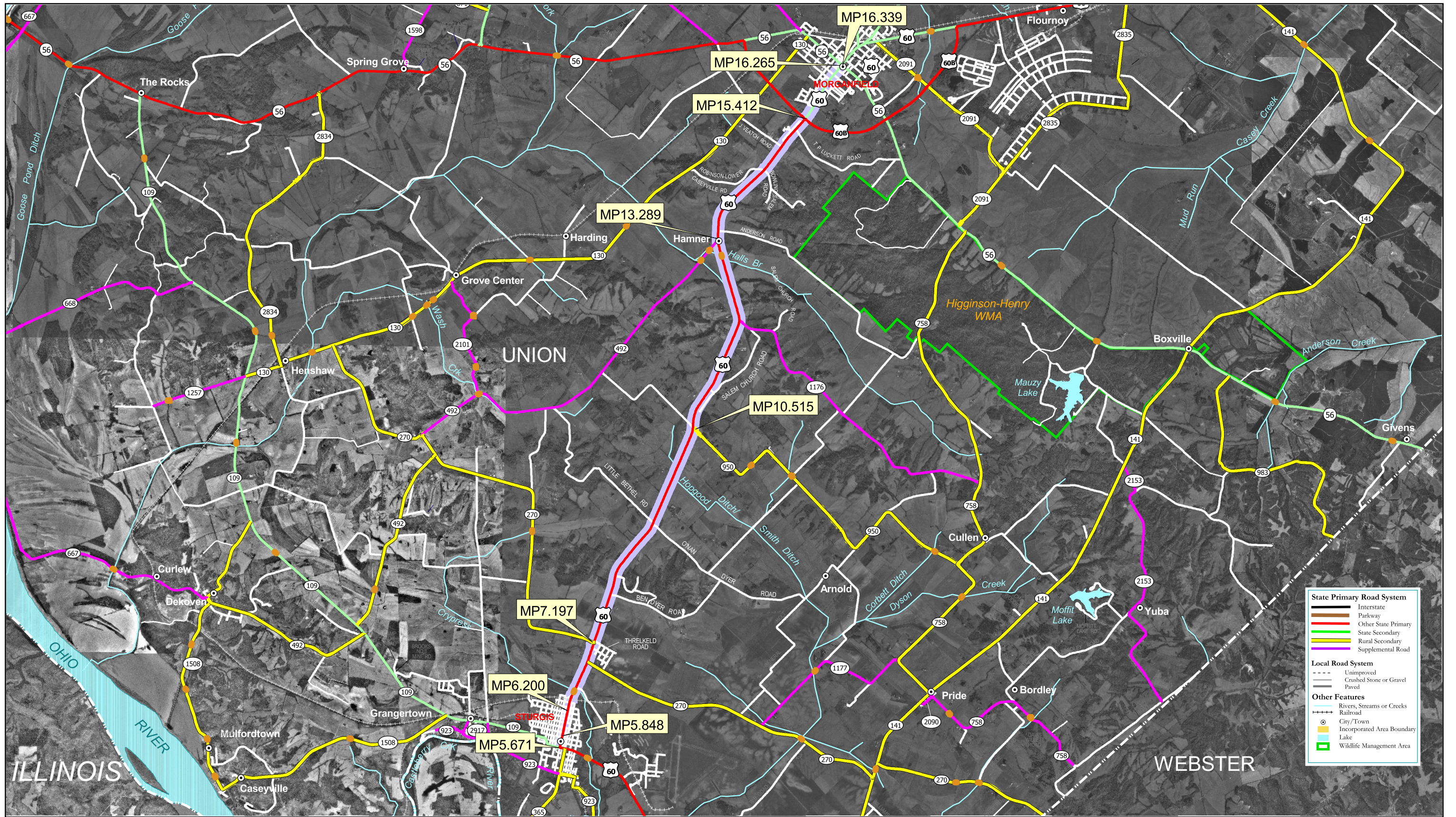

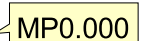


EXHIBIT 4
TOPOGRAPHICAL VIEW

Union County
 US 60
 From Sturgis to Morganfield
 Item No. 02-8102.00



 STUDY CORRIDOR
 MILE POINT

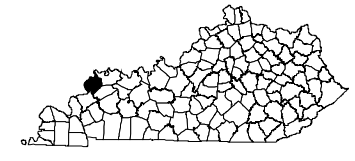


EXHIBIT 5
AERIAL VIEW
 Union County
 US 60
 From Sturgis to Morganfield
 Item No. 02-8102.00

- The Green River Area Development District was to be asked to perform an Environmental Justice analysis.
- Logical Termini:
 - Morganfield Bypass on the east
 - The proposed Sturgis Bypass on the west, though no development of that project has yet been initiated
 - Analysis of US 60 west of an assumed Sturgis Bypass should be considered separately
- Project Goals and Objectives were determined to be:
 - Provide corridor and system connectivity between recent and planned future improvements to US 60 from Paducah to Henderson
 - Increase capacity to handle existing and projected future traffic volumes
 - Improve safety by correcting horizontal and vertical curvature deficiencies, and by providing lane and shoulder widths that meet current standards
 - Enhance the regional and local transportation network by improving access to schools and the hospital
- Initial cost estimates developed in the 1998 Bernardin-Lochmueller Study referenced above (and extracted into Table 13 below) appear reasonable
- QK4 consultants were to provide the project environmental footprint
- Probable Design Criteria
 - Rural Minor Arterial
 - Future Year Design Hour Volume of 1530 vehicles
 - 55 mph Design Speed except for urban curb and gutter sections where a 45 mph Design Speed should be assumed
 - Typical cross sections similar to recent US 60 improvements (see Appendix B)
 - Partial control of access is assumed in rural areas
 - Access by permit is assumed in urban areas
- The project team concluded that it is likely that improvements could be made along the existing corridor for most of the route. Two areas of concern cited were the schools and the hospital. The team concluded that it may be desirable to look at larger areas for alternatives at these locations in order to

**TABLE 13
SEGMENT COST ESTIMATE BY PHASE**

Begin MP	End MP	Cost Estimate (millions of dollars)				
		Design	R/W	Utilities	Construction	Total
4.8	8.3	1.0	1.8	1.2	14.4	18.4
8.3	10.52	0.7	2.2	1.6	10.0	14.5
10.52	13.29	0.9	2.5	1.7	12.5	17.6
13.29	15.20	0.6	1.7	1.1	8.6	12.0

Source: Advance Planning Study US 60, Paducah to Henderson, prepared by Bernardin-Lochmueller and Associates, Inc. for the Division of Planning, Kentucky Transportation Cabinet, April, 1998. These cost estimates were based on an assumed 4-lane cross section and were determined using cost per mile figures on similar projects. These are considered to be Class E cost estimates in the Division of Planning's Unscheduled Needs List.

avoid potential "Section 4(f)" areas and to avoid/minimize adverse impacts to the schools or the hospital. The area known locally as Blueberry Hill just north and east of Sturgis is another area where it may ultimately be desirable to deviate from the existing corridor.

B. Local Officials and Group Meetings

No public meetings were held during the course of this study since no further project development phases are currently funded. However, a meeting was held on July 7, 2003 with local officials in the area; minutes of this meeting may be found in Appendix C. Representatives of the Union County Board of Education, the Union County Economic Development Office, the Union County Fiscal Court, the Union County Planning Commission, the City of Morganfield, and the Green River Area Development District attended the meeting which was held in the conference room of the Paul Herron Technology Center adjacent to the Union County High School which is located along the study segment of US 60. KYTC officials discussed the issues that the Planning Study Project Team had articulated for the US 60 corridor as outlined above. In addition, local officials raised these issues:

- Problems within Morganfield may be due to bad lines of sight and/or on street parking;
- Better signage needed at Morganfield Bypass (KYTC District Personnel pointed out that improved signage would soon be installed.);
- There is a perception that bypass is not yet fully utilized; driving public not yet "used to using bypass";
- Desire that there ultimately be a southern bypass of Sturgis;
- There is a desire that any future roadway development concept be cognizant of slow moving vehicles (e.g. farm vehicles) that tend to become the controlling vehicles for traffic flow;
- A preference was expressed for future improvements to stay close to the existing roadway;
- Concerns were expressed about fair treatment in future right-of-way acquisition;
- Those present agreed with the four project goals identified by the Planning Study Project Team as outlined in Section A.

C. Resource Agency Coordination

Early agency coordination letters were sent to various resource agencies, interested organizations, local officials, and internal Cabinet offices to obtain input and comments regarding the potential impacts associated with this project. Copies of the request letter, mailing list, and the responses are included in Appendix D. Issues identified and concerns raised as a result of this process include:

- Kentucky Cabinet for Workforce Development: Supported concept of project.
- KYTC Division of Environmental Analysis: Indicated that air quality would likely not be an issue on this project; noted presence of many streams, flood prone areas, and wetlands throughout the area; these areas should be avoided if possible as these areas would pose mitigation issues if impacted and permits may be needed depending upon final project design details; a base study of wetlands will likely be required; an assessment of the immediate area near sinkholes may be warranted as there is a potential for agricultural and/or chemical runoff to enter the groundwater system through these sinkholes; a thorough site assessment would be needed to obtain specific details concerning hazardous materials (HAZMAT) and storage tanks; potential Section 4(f) and Section 106 issues exist in the corridor; a full baseline study will be needed and impacts to these resources should be avoided or minimized; farmland impacts, drainage concerns, and potential relocations could be substantial; biological assessments for the Indiana bat and the Gray bat will be required as will coordination with the U.S. Fish and Wildlife Service.
- Natural Resources Conservation Service, U.S. Department of Agriculture: expressed a general concern about potential impacts on prime farmland soils and farmlands of statewide importance.
- Permits Branch, KYTC Division of Traffic Operations: urged that this project be classified as a partially controlled access facility and discussed procedural requirements if this happens; recommended that design speed used in subsequent project development phases be the same as anticipated posted speed; recommended construction of access control fence; requested notification if this project were to be added to the National Highway System.
- Kentucky Geological Survey, University of Kentucky: Provided a list of general comments and specific concerns.
- Division of Air Quality, Department for Environmental Protection: Noted general concerns about Fugitive Emissions, open burning, and air quality conformity.
- Kentucky State Nature Preserves Commission, Natural Resources and Environmental Protection Cabinet: noted the absence in their database of any KSNPC listed species or unique natural areas that would be impacted by implementation of this project.
- Department of Fish and Wildlife Resources, Kentucky Tourism Development Cabinet: Notes likely presence of federally and/or state designated threatened or endangered species and included a list; noted potential negative impacts to aquatic resources and recommended procedural and mitigational efforts during subsequent project development phases in that regard; noted potential impacts to wetlands and recommended procedural techniques to be employed during subsequent project development phases.

- Union County Economic Development Foundation: Recommended that the study not consider urban sections within Sturgis and Morganfield.
- Geotechnical Engineering Branch, KYTC Division of Materials: noted presence of abandoned coal mines in region and noted their potential for mine subsidence problems in the area; noted presence of numerous oil and gas wells, as well as water injection wells (used to enhance oil recovery); indicated that US 60 in the study segment is in Seismic Risk Zone 3 (which is defined as an area of heavy property damage due to earthquake activity); listed some general geotechnical considerations.
- Office of Environmental Services, Kentucky Department of Agriculture: Stated preference for alternative improvement concepts that would disrupt the least amount of farmland.
- Resource Conservation and Local Assistance Branch, Division of Waste Management, Department for Environmental Protection: Requests the use of pulverized glass aggregates in roadbed construction during subsequent project development phases.
- Superfund Branch, Division of Waste Management, Department for Environmental Protection: There are twenty Superfund sites listed in Union County (Appendix D). A more detailed analysis of these features will be conducted as a part of any future project development activities.
- Underground Storage Tank Branch, Division of Waste Management, Department for Environmental Protection: There are 78 underground storage tank (UST) sites listed in Union County (Appendix D). A more detailed analysis of these features will be conducted as a part of any future project development activities.
- Enforcement Branch, Division of Waste Management, Department for Environmental Protection: There are three sites in Union County that have previously been investigated.
- Division of Forestry, Department for Natural Resources: Expressed concern about potential removal of large trees of native species during future construction. Expressed concern about potential loss of agricultural land and sedimentation issues.
- Sturgis Chamber of Commerce: Endorsed concept of a four-lane improvement between Sturgis and Morganfield.
- City of Sturgis: Endorsed concept of a four-lane improvement between Sturgis and Morganfield.
- Union County Planning Commission: Noted that the Union County Comprehensive Plan includes the development of a four-lane improvement between Sturgis and Morganfield.

- Centers for Disease Control and Prevention, Public Health Service, U. S. Department of Health and Human Services: Outlined issues that they want considered as a part of future project development phases, including air quality, water quality and quantity; wetlands and floodplains, hazardous materials and wastes, non-hazardous solid wastes and other materials, noise, occupational health and safety, land use and housing, and environmental justice.
- Fish and Wildlife Service, U.S. Department of the Interior: Encouraged use of Best Management Practices during future construction; indicated the possible presence of one Threatened or Endangered Species (Indiana bat) and outlined procedures to follow associated with that issue in future project development phases.
- The following agencies responded to KYTC's solicitation for comments, but had none at this time:
 - Kentucky State Police
 - Division of Aeronautics, Kentucky Transportation Cabinet
 - Kentucky Department of Military Affairs
 - Department for Surface Mining Reclamation and Enforcement

IV. ENVIRONMENTAL AND SOCIOECONOMIC OVERVIEW

A. Environmental Footprint

Presnell Associates, Inc. (d/b/a "QK4"), under contract to assist the Division of Planning, developed an Environmental Overview Report as shown in Appendix E. Included in that report was environmental resource data portrayed graphically on both USGS topographic and KYOGIS orthographic base maps. Issues identified as possibly requiring particular consideration in subsequent project development phases include:

- Culturally sensitive locations:
 - Five cemeteries
 - Numerous churches
 - Methodist Hospital
 - Union County Vocational School
 - Union County High School
 - Union County Middle School
 - Union County Fairgrounds
- No properties listed on the National Register of Historic Places, but seventeen historic sites; twelve of these sites have the potential to meet NRHP criteria. Two historic farms may also be located in the project study area.

- The archaeological overview revealed the project study area to be largely uninvestigated but full of archaeological potential. Additional archaeological investigations will be required in subsequent project development phases.
- Sixty-four surface streams generally feeding the Tradewater River.
- The requirement for development of a non-point source pollution control plan.
- No nationally or state listed wild and scenic rivers.
- The existing route crosses the 100-year floodplain of Cypress Creek east of Sturgis.
- Numerous wetlands
- Various permits
- Construction restrictions/conditions associated with the likely presence of the Indiana bat and/or the gray bat
- No known managed land areas or agricultural districts in the project study area.
- Significant acreage of prime and/or statewide important farmland in the project study area.
- Twenty-nine possible contamination sites

B. Environmental Justice

The Green River Area Development District (GRADD) conducted a review of the 2000 Census data for the purpose of identifying environmental justice and community impact issues. The purpose of this review was to assist the Kentucky Transportation Cabinet in meeting the requirements of Federal Executive Order 12898, which states that "...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations..." and hence to ensure equal environmental protection to all groups potentially impacted by the US 60 project. Although EO 12898 does not specifically address consideration of the elderly population, the U. S. Department of Transportation encourages the consideration of this demographic subset in Environmental Justice discussions. In addition, GRADD identified a list of nearly sixty community leaders with whom the possible effects on the community of the potential highway project under analysis herein were discussed. A copy of GRADD's Environmental Justice and Community Impact Report is included in Appendix F.

The GRADD study concludes that the potential for disproportionately high and/or adverse effects on minority, low income, and/or elderly populations impacted by the US 60 project is generally small. (Although not a part of the required demographic analysis, GRADD reached this same conclusion in regard to disabled persons.) The study area for the US 60 project encompasses four Census Blocks: Blocks 1, 3, and 4 of Census Tract 9503 and Block 7 of Tract 9502. Table 14 summarizes the pertinent demographic factors of these four Census Blocks in comparison to county, statewide, and nationwide figures.

Demographic measures for which the data in a Census Block exceeds the corresponding figure for Union County as a whole are highlighted in red. As can be seen therein, the potential environmental justice consequences are greatest within the town of Sturgis.

**TABLE 14
SELECTED CENSUS DATA FOR US 60 STUDY REGION**

Census Unit Tract	Census Unit Block	% Minority Persons ⁽¹⁾	% Low Income	% Elderly Persons	% Disabled
9502	7	2.6%	9.1%	12.7%	20.1%
9503	1	1.6%	10.9%	13.8%	32.9%
9503	3	3.8%	15.6%	17.2%	53.5%
9503	4	15.3%	4.4%	18.4%	63.2%
Union County		14.7%	17.7%	12.8%	42.0%
Kentucky		9.9%	15.8%	12.5%	41.7%
United States		29.7%	12.4%	12.4%	31.7%

1. For purposes of this table, "minority" is defined as non-white.

V. TERMINI AND LENGTH

As indicated previously, the project termini, as described in the 2002 Kentucky Six-Year Highway Plan, were quite specific: from milepoint 5.671 (the intersection with KY 109 (Main Street) in Sturgis) to milepoint 16.339 (the intersection with KY 56 (Main Street) in Morganfield).

VI. DRAFT PROJECT GOALS

As articulated by the US 60 Project Team, four goals were envisioned to be achieved by the completion of this project:

- Provide corridor and system connectivity between recent and planned future improvements to US 60 from Paducah to Henderson;
- Increase capacity to handle existing and projected future traffic volumes;
- Improve safety by correcting horizontal and vertical curvature deficiencies, and by providing lane and shoulder widths that meet current standards;
- Enhance the regional and local transportation network by improving access to schools and the hospital.

In terms of meeting federal (FHWA, CEQ) and KYTC guidance for development of a purpose and need statement for subsequent project development phases, if any, these four draft project goals reflect respectively the factors of system linkage, capacity, safety/roadway deficiencies, and social demands.

VII. RECOMMENDATIONS

A. Geometric Design Features

Probable design criteria were discussed by the US 60 project team, which agreed to the following recommendations:

- The functional classification of US 60 in Union County is currently Rural Minor Arterial. It is not expected that this functional classification will change, at least until such time that US 60 improvements are completed between Henderson and US 641 in Marion.
- The design year for this study will be 2030. The average daily vehicular traffic in 2030 ranges from about 8700 vehicles in the vicinity of the Morganfield Bypass to about 16,600 vehicles in downtown Morganfield (Table 12) with a design hour volume (DHV) at these respective locations of 985 and 1875.
- The expected design speed will be 55 mph to match the posted speed limit, except that the design and posted speeds may be lower near Sturgis and Morganfield.
- The typical cross-section for four-lane Rural Minor Arterial roads with a 62-mph design speed in rolling terrain with partial control of access is 12-foot lanes with 6-foot inside shoulders and 12-foot outside shoulders. A median width of 28 feet in addition to the inside shoulders is also included, resulting in a total median width of 40 feet. This would result in a roadway cross-section consistent with other planned or completed US 60 improvements in the region. Curb and gutter with sidewalks should be considered for the portions of the roadway in Sturgis and Morganfield.

B. Priority Segments and Cost Estimates

It is recommended that the priority section for subsequent project development phases of this project begin at the Morganfield Bypass (MP 15.412) and terminate at KY 950 (MP 10.515). The second priority is recommended to be the section immediately west of the first priority section, beginning at KY 950 (MP 10.515) and terminating at KY 270 west (MP 7.197). The exact termini of the third priority section would not be determined until such time that a final Kentucky Transportation Cabinet decision has been made concerning a bypass of Sturgis; the segment of US 60 beginning at the eastern terminus of any Sturgis bypass (or, alternatively, Main Street in Sturgis (MP 5.671)) and terminating at KY 270 west (MP 7.197) would be the third priority section. The fourth priority segment would begin at Main Street in Morganfield (MP 16.339) and terminate at the Morganfield Bypass (MP 15.412). Cost estimates for these segments are depicted in Table 15.

**TABLE 15
COST DATA BY RECOMMENDED SECTION**

Priority Segment	1	2	3	4
Development Characteristic	Primarily Rural	Rural	Urban Fringe	Urban
Western MP	10.515	7.197	5.671 ⁽²⁾	15.412
Eastern MP	15.412	10.515	7.197	16.339
Length	4.897	3.318	1.526	0.927
Preliminary Design/Location Approval	\$0.50 ⁽¹⁾	\$0.35	\$0.15	\$0.25
Final Design	\$1.50	\$1.00	\$0.40	\$0.40
R/W Acquisition	\$5.00	\$3.50	\$2.50	\$1.50
Utility Relocation	\$3.00	\$2.00	\$2.00	\$1.30
Construction	\$23.00	\$15.00	\$8.40	\$5.10
Total Cost	\$33.00	\$21.85	\$13.45	\$8.55
Total Cost per Mile	\$6.74	\$6.59	\$8.81	\$9.22

(1) All Costs in Millions; (2) Assumed to be junction with KY 109 for cost estimating purposes only.

C. Programming Estimates

For programming purposes, cost estimates for priority segment 1 are recommended. As shown in Table 15, the phase cost estimates for this alternative are as follows:

Location Approval:	\$ 500,000
Final Design:	\$ 1,500,000
Right-of-Way:	\$ 5,000,000
Utilities:	\$ 3,000,000
Construction:	\$ 23,000,000

VIII. ACKNOWLEDGEMENTS

Appreciation is herewith expressed to Ted Merryman, Everett Green, T.C. Chambers, Kenny Potts, Kevin McClearn, Nick Hall, Charlotte Cotton, Joe Plunk, Joe Luck, Mark Allen, and Phillip Whitmer of District 2, to Doug Taylor, former District 2 Environmental Coordinator, to Gina Boaz and Jennifer Alvey of the Green River Area Development District, to the Cartography Team of the Division of Planning, to Daryl Greer and Steve Ross with the Division of Planning, and to Joe Tucker (formerly of the Division of Planning who completed most of the work on this project before his military deployment to the Middle East) for their participation in the Project Team meeting and field inspection, providing crash data and other information, preparation of graphics for this report, and for development and reporting of environmental justice information. Finally, thanks go to QK4 for their work in the development of the environmental footprint.

IX. CONTACTS

The following persons may be contacted if additional information is needed concerning the project or the programming study process:

- Annette Coffey, Director, Division of Planning
- Daryl Greer, Transportation Engineer Branch Manager, Strategic Planning Activity Center, Division of Planning
- Jim Wilson, Team Leader, Strategic Planning Activity Center, Division of Planning
- Bruce Siria, US 60 Programming Study Project Manager, Strategic Planning Activity Center, Division of Planning

The following address and phone number may be used:

Phone: 502-564-7183

Address: Division of Planning
Kentucky Transportation Cabinet
Mail Code W5-05-01
Transportation Office Building
200 Mero Street
Frankfort, KY 40622

APPENDIX A
PROJECT TEAM
MEETING MINUTES

AGENDA
Programming Study - Initial Project Team Meeting
Union County US 60, Item No. 02-8102
10:30 a.m. CST, March 25, 2003
District 2 Conference Room

- 1) Introduction and Purpose
 - a) Listed in six-year highway plan as "Planning study to construct 4 lanes on US 60 from Sturgis to Morganfield."
 - b) Evaluate Roadway Improvements and prioritize projects for future programming documents
 - c) Provide input for the statewide transportation plan.

- 2) Project Goals and Objectives
 - a) Identify general project area
 - i) Sturgis to Morganfield
 - b) Discuss available data and reports
 - i) Traffic data
 - ii) Accident data
 - iii) Existing roadway geometry
 - (1) Little data available
 - (2) Resurfacing plans for 1930 with no plan profiles
 - (3) Old Earth Road? 1921 plans
 - iv) Other
 - c) Discuss problems with existing roadway or network
 - d) Discuss benefits of proposed project
 - e) Identify additional information needed to document problems
 - i) Traffic data
 - ii) Accident data
 - iii) Existing roadway geometry
 - iv) Other (ITS/Bikes/Ped.)
Real Estate Questionnaire
 - f) Environmental Justice
 - i) Provided by ADD
 - g) Identify logical termini
 - i) MP 5.671 (KY 109 (Main Street)) to MP 16.339 (KY 56)
 - ii) MP 5.671 to MP 15.412 (US 60 Bypass/ KY 3393)
 - iii) MP 5.671 to MP 18.051 (US 60 Bypass Northern end)
 - iv) MP 8.300 (Proposed Sturgis Bypass) to 15.412
 - v) other
 - h) Develop project goals and objectives
 - i) Define the need for the project
 - ii) Determine location of termini
 - iii) Describe existing conditions
 - iv) Develop environmental footprints
 - v) Estimate project cost
 - vi) Initiate contact with public officials and organizations

- 3) Discuss Possible Alternatives and Corridors
 - i) No build
 - ii) Spot Improvements
 - iii) Reconstruct with minimal relocation
 - iv) New route
 - v) Combination
 - vi) Other

- 4) Define Environmental Footprint Area
 - a) From KY 109 (MP 5.671) to US 60B (MP 15.412), to be provided by QK4 consultants.

- 5) Discuss Probable Design Criteria
 - a) Functional class
 - i) remain rural minor arterial
 - b) ADT/DHV
 - i) 2002 traffic 6980 ADT/ 789 DHV (11.3% from KYTC Division of Multimodal's Traffic Forecasting Report)
 - ii) 2030 traffic (2.4% growth rate from KYTC Division of Multimodal's Traffic Forecasting Report) ADT 13560/DHV 1532
 - c) Design speed
 - i) Majority 55 mph
 - ii) Some 35 mph urban sections
 - d) Typical section
 - i) 4-lanes
 - ii) median
 - iii) 8-12 foot shoulders
 - e) ITS
 - f) Bicycle/Pedestrian facilities
 - i) Bicycle route running parallel to route along KY 130.
 - g) Other criteria

- 6) Discuss Agency Coordination Needs
 - a) General agency coordination
 - b) Other local or interested agencies or groups

- 7) Discuss Public Involvement Needs
 - a) No public information meetings are planned for this study

- 8) Discuss Documentation/Reports
 - a) Previously developed information
 - b) Information to include in report
 - c) Level of detail in corridor/alternate development
 - d) Distribution
 - e) Other

- 9) Field Review of Project Area

Minutes
Programming Study - Initial Team Meeting
Union County, Item No. 8102.00
US 60 From Sturgis to Morganfield

Meeting Location: District 2 Office, Conference Room
Meeting Date: April 9, 2003

Introduction & Purpose

The meeting began at 10:00 AM local time. Handouts were distributed and attendees introduced themselves. Those present were:

Ted Merryman	D-2 Chief District Engineer
Everett Green	D-2 Preconstruction
T.C. Chambers	D-2 Construction
Kenny Potts	D-2 Traffic
Kevin McClearn	D-2 Planning
Nick Hall	D-2 Planning
Charlotte Cotton	D-2 Design
Joe Plunk	D-2 Design
Joe Luck	D-2 Design
Mark Allen	D-2 Utilities
Phillip Whitmer	D-2 ROW
Doug Taylor	D-2 Environmental Coordinator
Jennifer Alvey	Green River ADD
Gina Boaz	Green River ADD
Daryl Greer	CO Planning
Joe Tucker	CO Planning

The project was described as being listed in the 2002 Six-Year Highway Plan as "Planning study to construct 4 lanes on US 60 from Sturgis to Morganfield," with no other phases other than planning currently listed in the Six-Year Plan.

The purpose of the study is to evaluate various roadway improvements, prioritize projects for future programming documents, and to provide input for the statewide transportation plan.

Project Description

Project Area

The general project area is Union County US 60 from Sturgis to Morganfield.

Available Data

Traffic Data

Existing traffic ranges from 4500 to 8520 vehicles per day with the highest traffic being near Morganfield.

Automatic Traffic Recorder (ATR) data is recorded south of Sturgis. However, it should not be used for this section due to the number of trucks south of Sturgis. The statewide model should be used instead.

Crash Data

Items highlighted in yellow in the crash analysis handout were seen as being more relevant due to being more recent. These numbers are derived from the CRASH database for January 1, 2000 to December 31, 2002. This information also showed a decrease in the number of crashes since the previous time period from January 1, 1996 to December 31, 1999.

The highest concentration of crashes was shown as being in the residential area near the Morganfield Bypass. This area was expected to have a high number of rear-end crashes, and the severity and types of crashes here should be evaluated further.

It was also noted that this project should stop at the Morganfield Bypass, and the crashes from the bypass into Morganfield should be evaluated as a separate project.

The schools and hospital just west of KY 1176 were noted as having high accident spots. The problems due to turning movements would probably be solved by a four-lane section.

Roadway Geometry

No old plans had been found. The team suggested checking old studies and using that information. The District agreed to look for plans on microfilm.

The curve near the liquor store just west of the Bypass was believed to have some horizontal and vertical problems. Blueberry Hill was also mentioned as having vertical problems.

Available Reports

1988 and 1998 studies are available and have been reviewed for this study. Both of these studies prioritized this section of roadway into three segments with the highest priority being from the Morganfield Bypass to KY 492. The second priority was from KY 492 to KY 950. The third priority was KY 950 to the Sturgis Bypass. The team agreed that the priorities should remain the same.

Problems with Existing Roadway

Proper turn lanes at the schools and hospital are a concern.

A previous curve revision just East of Hamner in the late 1980's to 12 foot lanes with shoulders has improved part of the geometric alignment.

Benefits of Proposed Project

- Four lane sections would provide a LOS of A throughout the project.
- The intent is to have 4 lanes from Henderson to Paducah. It was noted that this study should plan on 4 lanes throughout and allow the funding to dictate whether actual construction will be 4 lanes or 2 lanes on 4 lane ultimate right of way.
- A Sister project on KY 56 to Shawneetown Bridge may increase truck traffic in the project area.
- The project will improve connectivity to other roadways in the area and is the continuation of improvements to US 60 between Henderson and Paducah.
- An improved US 60 will provide a connection to the improvements on US 641 and future I-69.
- The project will improve safety by improving the cross sections to meet current design standards. Currently there are narrow shoulders, little to no clear zone, and vertical and horizontal sight distance problems.
- The capacity of the road will be increased to accommodate design year 2030 traffic.

Additional Information Needed

Traffic Data

2.4% growth rates were used for traffic projections. The District will provide traffic projections that were used for the other side of the Morganfield Bypass.

Possible future traffic generators such as I-69 and increased connectivity between existing and future roadway projects should be considered in the traffic projections.

Other (ITS/ Bikes/ Peds.)

There are no apparent ITS solutions.

The Rambling River Bike Tour is adjacent to this section of roadway on KY 130. So no specific bike facilities are anticipated for this project. The planned shoulders would be sufficient for bicycle traffic.

Pedestrians are not expected along the route due to the lack of population clusters.

Real Estate Questionnaire

- In a rural area it may not be beneficial.
- There was no significant relocations noted on other segments of US 60, so it is not expected here.
- Homes are pretty far off the road and few relocations are expected for this project.
- The market is expected to easily be able to absorb the relocations.
- Widening US 60 through Sturgis would be difficult due to the potential relocations involved and historic property concerns.

Environmental Justice

The Area Development District was asked to do an environmental justice report, and a letter request will be sent out.

No apparent community impact issues, clusters, gathering places, or other concentrations of populations were noted.

Logical Termini

- The Morganfield Bypass was chosen as the eastern terminus.
- The proposed Sturgis Bypass would be the logical western terminus, but no point has been tied down.
- The study should include the city of Sturgis, but it is doubtful that the improvements will go into Sturgis.
- District 1 will be contacted to find out their plans for getting US 60 to Sturgis.

Project Goals and Objectives

1. Provide corridor and system connectivity between improved and future improvements on US 60 from Paducah to Henderson.
2. Increase capacity to handle the existing and induced traffic along US 60.
3. Improve safety by correcting horizontal, vertical, and providing lane and shoulder widths that meet current standards.
4. Enhance regional and local network by providing improved access to schools and the hospital.

Cost Estimates

The initial cost estimate, which is based on other projects on US 60 in Union County listed in the Six-Year Plan, appears to be reasonable. Other similar projects on US 60 are at or below current six-year plan totals.

Possible Alternatives and Corridors

Expect to stay on existing alignment for most of the route. One area of concern is at the schools and hospital. It may be desirable to look at a larger area there in order to avoid potential section 4(f) areas and adversely affecting the schools or hospital. Blueberry Hill is another place where it may be desirable to deviate from the existing alignment.

Environmental Footprint Area

QK-4 consultants will provide the environmental footprint.

Probable Design Criteria

Functional Class

Rural Minor Arterial- will discuss with Jay Hoskins the effects of these improvements on the functional class.

Future ADT/ DHV

Design year 2030 traffic (2.4% growth rate from KYTC Division of Multimodal's Traffic Forecasting Report) ADT 13560/ DHV 1532

Design Speed

Mainly 55 mph speed with some 45 mph curb and gutter sections near Morganfield.

Typical Section

Should remain consistent with other improvements planned or finished along US 60. The District provided these typicals at the meeting.

Other

Partial access on 4 lane. Access by permit in Morganfield.

Agency Coordination Needs

Agencies to be included:

- Delta Regional Authority
- City and County Planning Commission
- Elected Officials
- Chamber of Commerce
- School Board
- Hospital
- Vocational School
- Industrial Foundation
- EMS
- Convention Center in Sturgis
- Airport in Sturgis

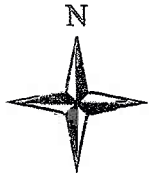
Public Involvement Needs

Not planning on having a public meeting but may meet with elected officials. A decision on meeting with the elected officials will be made at a later date.

An article about the study should be put into the local papers:

- The Union County Advocate
- The Henderson Gleaner
- The Sturgis paper

Field Review of Project Area



3 0 3 6 9 Miles

STUDY CORRIDOR



COUNTY MAP & PROJECT LOCATION
UNION COUNTY, US 60
ITEM NO. 02-8102.00

Union County
US 60
From Sturgis to Morganfield

General Information

County: Union
Route: US 60 **Beg MP:** 5.671 **End MP:** 16.300
Item No: 8102
Description: Planning Study to construct 4 lanes on US 60 from Sturgis to Morganfield. (02CCN)

ADD: Green River ADD
District: District 2
Functional Classification: Rural Minor Arterial
State System: State Primary (Other)
National Truck Network: Yes
NHS: No
Truck Weight Class: AAA
Type Road: Undivided Highway
Type of Terrain: Rolling
Number of Bridges: 2
Pavement type: Mixed

Crash Data

Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Rural/Urban		Critical Crash Rate	Crashes			HMVM	MV	Rates per HMVM			Critical Rate Factor		
						Rural	Urban		Fatal	Injury	PDO			Total	Fatal	Injury		PDO	Total
January 1, 1996 to December 31, 1999 Crash Data																			
US 60	5.671	5.847	0.177	6630	2	Rural		593.594	0	2	11	13	0.0171	1.713	0.0	116.7	642.0	758.8	1.278
US 60	5.848	6.199	0.352	6980	2	Rural		481.848	0	1	7	8	0.0359	3.587	0.0	27.9	195.1	223.0	0.463
US 60	6.200	7.196	0.997	6130	2	Rural		394.500	0	10	27	37	0.0892	8.923	0.0	112.1	302.6	414.7	1.051
US 60	7.197	10.514	3.318	5360	2	Rural		334.176	1	15	39	55	0.2597	25.965	3.9	57.8	150.2	211.8	0.634
US 60	10.515	13.288	2.774	6520	2	Rural		333.471	0	12	32	44	0.2641	26.406	0.0	45.4	121.2	166.6	0.500
US 60	13.289	15.411	2.123	4500	2	Rural		365.078	0	26	51	77	0.1395	13.948	0.0	186.4	365.6	552.0	1.512
US 60	15.412	16.264	0.853	4500	2	Rural		433.660	0	19	28	47	0.0560	5.604	0.0	339.0	499.6	838.7	1.934
US 60	16.265	16.300	0.035	8520	2	Rural		986.593	0	8	20	28	0.0044	0.435	0.0	1837.5	4593.8	6431.3	6.519
January 1, 2000 to December 31, 2002 Crash Data																			
US 60	5.671	5.847	0.176	6630	2	Rural		652.896	0	1	4	5	0.0128	1.278	0.0	78.3	313.1	391.3	0.599
US 60	5.848	6.199	0.351	6980	2	Rural		520.303	0	1	5	6	0.0268	2.683	0.0	37.3	186.4	223.7	0.430
US 60	6.200	7.196	0.996	6130	2	Rural		417.633	0	3	10	13	0.0669	6.686	0.0	44.9	149.6	194.5	0.466
US 60	7.197	10.514	3.317	5360	2	Rural		347.248	0	14	15	29	0.1947	19.468	0.0	71.9	77.0	149.0	0.429
US 60	10.515	13.288	2.773	6520	2	Rural		346.431	1	17	25	43	0.1980	19.798	5.1	85.9	126.3	217.2	0.827
US 60	13.289	15.411	2.122	4500	2	Rural		383.244	1	17	36	54	0.1046	10.456	9.6	162.6	344.3	516.4	1.348
US 60	15.412	16.264	0.852	4500	2	Rural		463.488	0	11	26	37	0.0420	4.198	0.0	262.0	619.3	881.3	1.902
US 60	16.265	16.300	0.035	8520	2	Rural		1120.750	0	4	9	13	0.0033	0.327	0.0	1225.0	2756.3	3981.3	3.552
January 1, 1996 to December 31, 2002 Crash Data																			
US 60	5.671	5.847	0.176	6630	2	Rural		505.601	0	3	15	18	0.0298	2.981	0.0	100.6	503.1	603.7	1.194
US 60	5.848	6.199	0.351	6980	2	Rural		423.432	0	2	12	14	0.0626	6.260	0.0	32.0	191.7	223.7	0.528
US 60	6.200	7.196	0.996	6130	2	Rural		358.741	0	13	37	50	0.1560	15.600	0.0	83.3	237.2	320.5	0.893
US 60	7.197	10.514	3.317	5360	2	Rural		313.774	1	29	54	84	0.4543	45.426	2.2	63.8	118.9	184.9	0.589
US 60	10.515	13.288	2.773	6520	2	Rural		313.248	1	29	57	87	0.4619	46.194	2.2	62.8	123.4	188.3	0.601
US 60	13.289	15.411	2.122	4500	2	Rural		336.838	1	43	87	131	0.2440	24.398	4.1	176.2	356.6	536.9	1.594
US 60	15.412	16.264	0.852	4500	2	Rural		387.759	0	30	54	84	0.0980	9.796	0.0	306.3	551.3	857.5	2.211
US 60	16.265	16.300	0.035	8520	2	Rural		786.112	0	12	29	41	0.0076	0.762	0.0	1575.0	3806.3	5381.3	6.845
Project Averages- January 1, 1996 to December 31, 2002 Crash Data																			
US 60	5.671	16.300	10.629	5580	2	Rural		285.549	3	161	345	509	1.5154	151.537	2.0	106.2	227.7	335.9	1.176
High Accident Spots- January 1, 1996 to December 31, 2002 Crash Data																			
Route	Begin MP	End MP	Length (Miles)	ADT	Number of Lanes	Rural	Urban	Critical Crash Rate	Fatal	Injury	PDO	Total	HMVM	MV	Fatal	Injury	PDO	Total	Critical Rate Factor
US 60	16.000	16.300	0.300	4980	2	Rural		1.429	0	24	62	86	0.0382	12.724	0.0	1.9	4.9	6.8	4.730
US 61	14.800	15.100	0.300	4500	2	Rural		1.466	0	20	39	59	0.0345	11.498	0.0	1.7	3.4	5.1	3.501
US 62	14.300	14.600	0.300	4500	2	Rural		1.466	0	7	18	25	0.0345	11.498	0.0	0.6	1.6	2.2	1.483
US 64	5.671	5.971	0.300	6630	2	Rural		1.335	0	4	19	23	0.0508	16.940	0.0	0.2	1.1	1.4	1.017
High Accident Spots- January 1, 2000 to December 31, 2002 Crash Data																			
US 60	16.000	16.300	0.300	4980	2	Rural		1.813	0	10	28	38	0.0164	5.453	0.0	1.8	5.1	7.0	3.843
US 61	14.800	15.100	0.300	4500	2	Rural		1.873	0	7	19	26	0.0148	4.928	0.0	1.4	3.9	5.3	2.817
US 62	14.300	14.600	0.300	4500	2	Rural		1.873	0	4	5	9	0.0148	4.928	0.0	0.8	1.0	1.8	0.975
US 64	5.671	5.971	0.300	6630	2	Rural		1.335	0	2	5	7	0.0508	16.940	0.0	0.1	0.3	0.4	0.310

Level of Service Calculations

Begin MP	End MP	2002 ADT	Annual Growth Rate	2030 ADT	% Trucks	Number of Lanes	Lane Width (Feet)	Shoulder Width (Feet)	% Passing Sight Distance	Access Points Per Mile	Direction Split	Speed Limit (MPH)	2002 LOS	2030 LOS No Improv.
5.671	5.848	6630	2.4%	12880	6.4%	2	12	0	34	17	57.1%-42.9%	25	C	D
5.848	6.200	6980	2.4%	13560	6.4%	2	12	0	34	20	57.1%-42.9%	35	C	D
6.200	7.197	6130	2.4%	11909	6.4%	2	12	3	34	10	57.1%-42.9%	55	C	D
7.197	10.515	5360	2.4%	10413	6.4%	2	11	3	60	2	57.1%-42.9%	55	C	D
10.515	13.289	6520	2.4%	12666	6.4%	2	11	3	60	2	57.1%-42.9%	55	C	D
13.289	15.412	4500	2.4%	8742	6.4%	2	11	3	20	3	57.1%-42.9%	55	C	D
15.412	16.265	4500	2.4%	8742	6.4%	2	12	3	20	7	57.1%-42.9%	35	C	D
16.265	16.300	8520	2.4%	16552	6.4%	2	14	0	20	29	57.1%-42.9%	25	D	E

Cost Estimates from 6-Year Plan

Length	Project Number	Description	Design	ROW	Utility	Const.	Total
5.6	02-79.20	Reconstruct from Waverly to Corydon	\$ 1.80	\$ 4.00	\$ 2.00	\$ 16.00	\$ 23.80
3.7	02-122.01	Morganfield Bypass to Waverly	\$ 0.30	\$ 3.10	\$ 2.30	\$ 14.30	\$ 20.00
2.3	02-123.01	Waverly Bypass	\$ 0.30	\$ 1.25	\$ 0.75	\$ 9.00	\$ 11.30
2.1	02-139.00	Sullivan Bypass	\$ 0.80	\$ 1.50	\$ 1.00	\$ 8.00	\$ 11.30
Per Mile							
5.6	02-079.20	Reconstruct from Waverly to Corydon	\$ 0.32	\$ 0.71	\$ 0.36	\$ 2.86	\$ 4.25
3.7	02-122.01	Morganfield Bypass to Waverly	\$ 0.08	\$ 0.84	\$ 0.62	\$ 3.86	\$ 5.41
2.3	02-123.01	Waverly Bypass	\$ 0.13	\$ 0.54	\$ 0.33	\$ 3.91	\$ 4.91
2.1	02-139.00	Sullivan Bypass	\$ 0.38	\$ 0.71	\$ 0.48	\$ 3.81	\$ 5.38
		Maximum	\$ 0.38	\$ 0.84	\$ 0.62	\$ 3.91	\$ 5.75
		Minimum	\$ 0.08	\$ 0.54	\$ 0.33	\$ 2.86	\$ 3.81
		Average	\$ 0.23	\$ 0.70	\$ 0.45	\$ 3.61	\$ 4.99
		Weighted Average	\$ 0.23	\$ 0.72	\$ 0.44	\$ 3.45	\$ 4.85
7.112	02-81.02.00	Proposed Sturgis Bypass to Morganfield Bypass	\$ 1.60	\$ 5.00	\$ 3.20	\$ 25.70	\$ 35.50

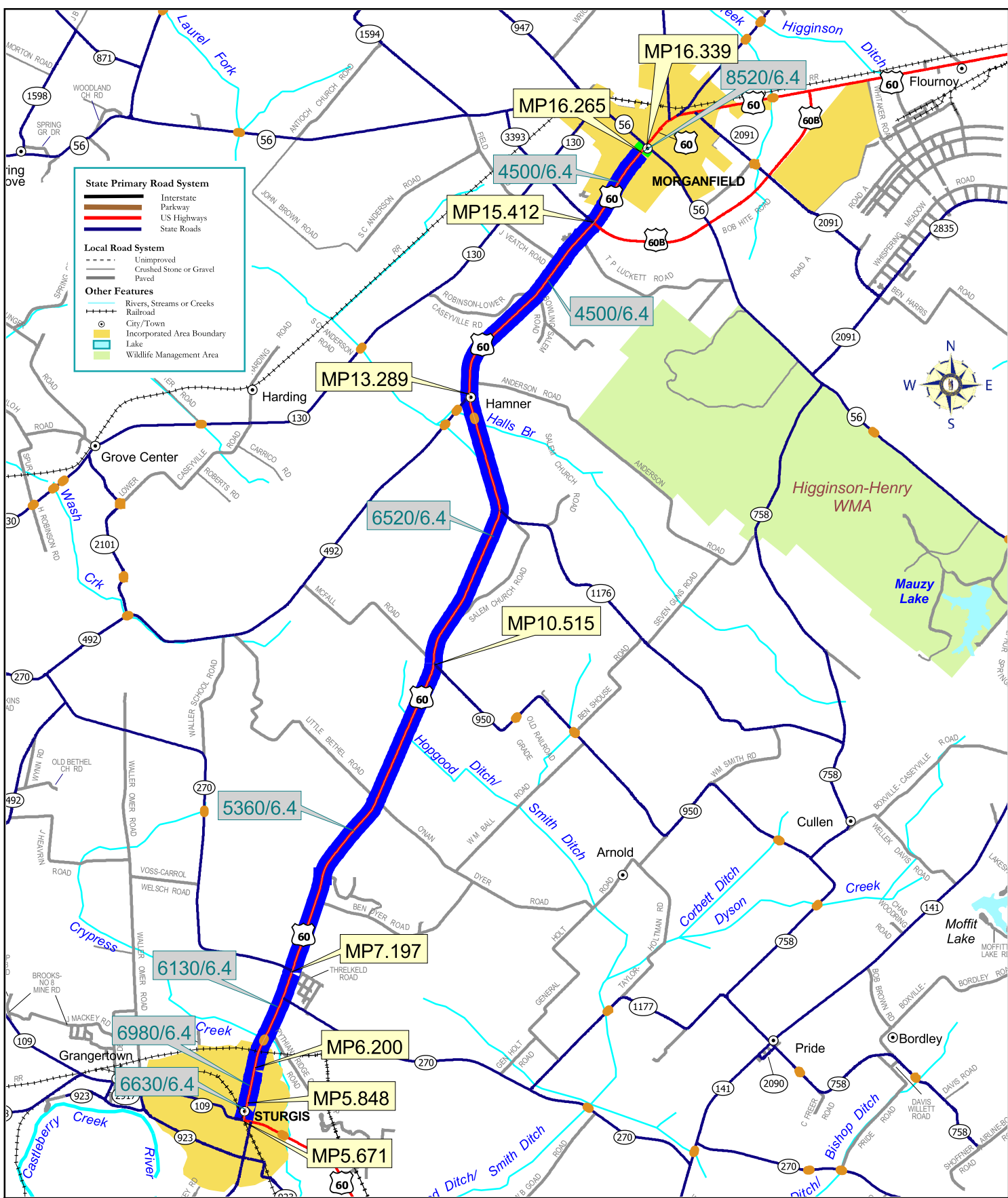
Crossroad Crash History Within 2 Miles of US 60

Route	Total Crashes	Fatal	Injury	PDO	Traffic Volume	HMVM	Critical Crash Rate	CRF
KY 365	7	0	3	4	2020	0.0463	452.91	0.3340
KY 109	44	2	12	30	5820	0.3005	328.27	0.4461
KY 270 E	2	0	0	2	1120	0.0327	493.41	0.1239
KY 270 W	3	0	0	3	619	0.0181	583.83	0.2843
KY 950	1	0	1	0	212	0.0062	852.51	0.1895
KY 1176	4	0	1	3	352	0.0103	704.00	0.5528
KY 492	7	0	1	6	450	0.0131	646.79	0.8236
US 60B	6	2	1	3	8500	0.0621	424.22	0.2279
KY 3393	1	0	1	0	8500	0.2482	336.10	0.0120
KY 56	80	0	21	59	5238	0.3059	327.57	0.7984
KY 130	33	0	15	18	4770	0.2786	331.27	0.3576

**Kentucky Transportation Cabinet
Unscheduled State Highway Plan Needs**

County: Union

State LRP Control No.	Corr. No.	Route	County	ADD/ MPO Area	Length (Miles)	Project Description	Total Unsch Cost (\$Mil)	Fed. Sys.	State Sys.	Funct. Sys.	2001 Local Priority	2001 ADD/ MPO Priority (Rank)	2001 Highway district Priority	2001 State Wide Priority
02 113 B0060 81.00	17	US 60	Union	Green River	2.2	Major widening to 4 lanes from proposed Sturgis bypass to KY 950 to KY 492. See Segment 22 in April, 1998 Advance Planning Study.	14.5	STP	SP	MN A	LOW	LOW	LOW	LOW
02 113 B0060 82.10	17	US 60	Union	Green River	2.8	Major widening to 4 lanes from KY 950 to KY 492. See segment 23 in April, 1998 Advance Planning Study.	17.6	STP	SP	MN A	MED	MED	LOW	LOW
02 113 B0060 82.20	17	US 60	Union	Green River	1.9	Major widening to 4 lanes from KY 492 to Morganfield Bypass. See Segment 24 in April, 1998 Advance Planning Study.	12	STP	SP	MN A	HI	HI	HI	HI



State Primary Road System

- Interstate
- Parkway
- US Highways
- State Roads

Local Road System

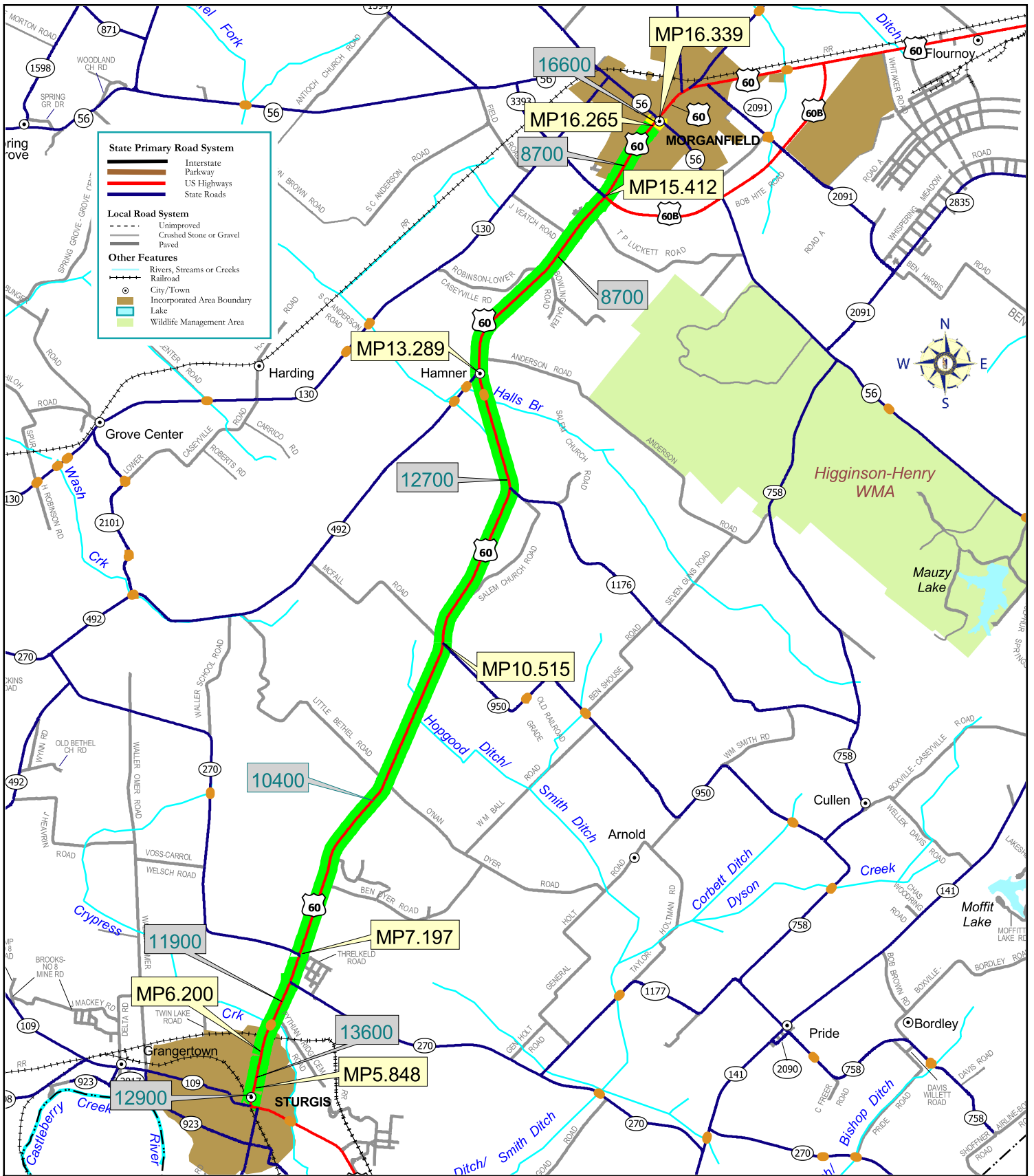
- Unimproved
- Crushed Stone or Gravel
- Paved

Other Features

- Rivers, Streams or Creeks
- Railroad
- City/Town
- Incorporated Area Boundary
- Lake
- Wildlife Management Area

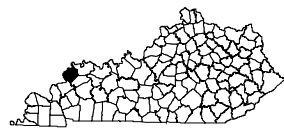


**EXHIBIT 1
YEAR 2002
TRAFFIC AND LEVEL
OF SERVICE**
Union County, US 60
From Sturgis to
Morganfield
Item No. 02-8102.00



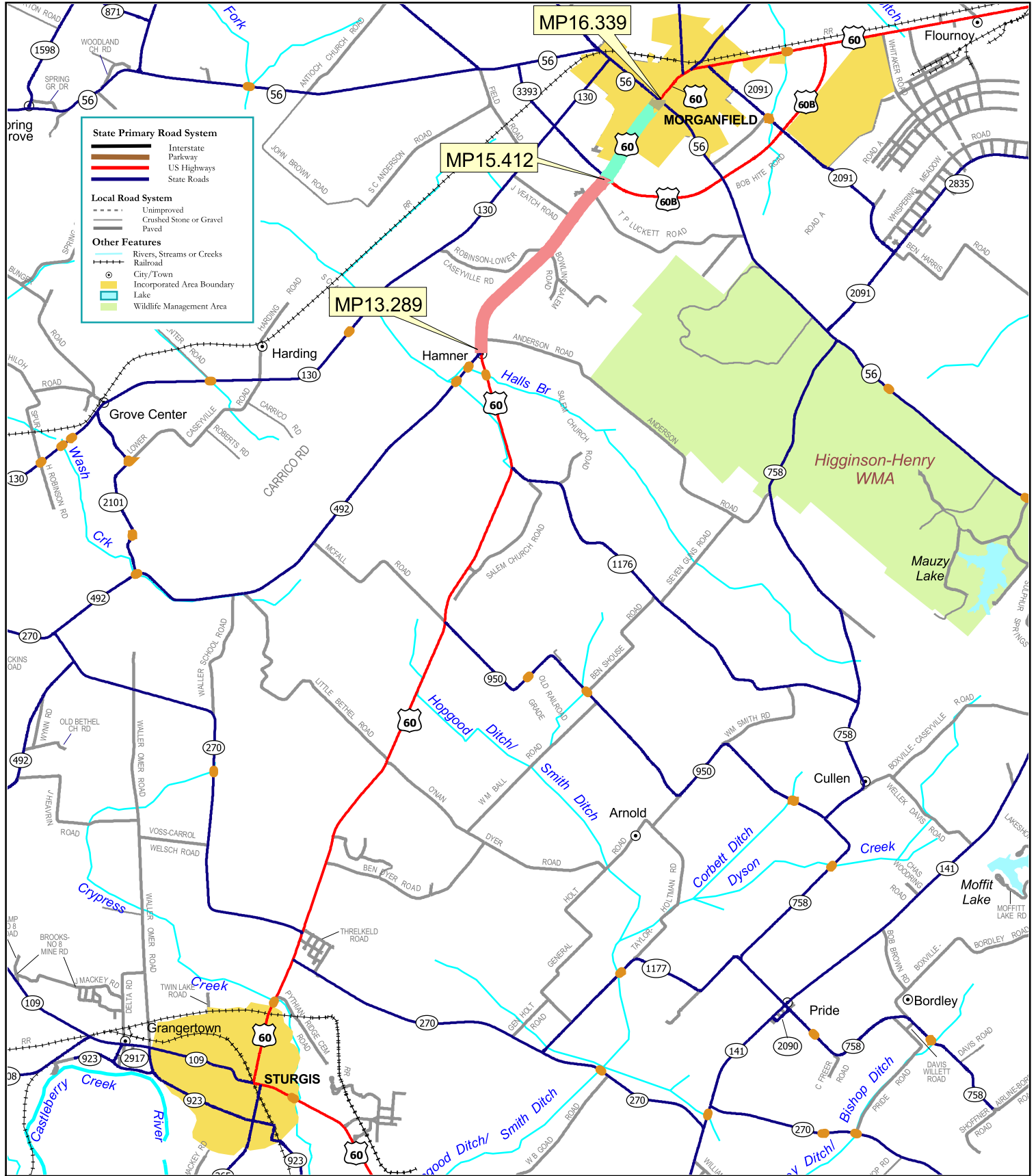
2030 ADT

MP0.000 MILE POINT



**EXHIBIT 2
YEAR 2030
TRAFFIC AND LEVEL
OF SERVICE**

Union County
US 60
From Sturgis to
Morganfield
Item No. 02-8102.00



State Primary Road System

- Interstate
- Parkway
- US Highways
- State Roads

Local Road System

- Unimproved
- Crushed Stone or Gravel
- Paved

Other Features

- Rivers, Streams or Creeks
- Railroad
- City/Town
- Incorporated Area Boundary
- Lake
- Wildlife Management Area



MP0.000 MILE POINT

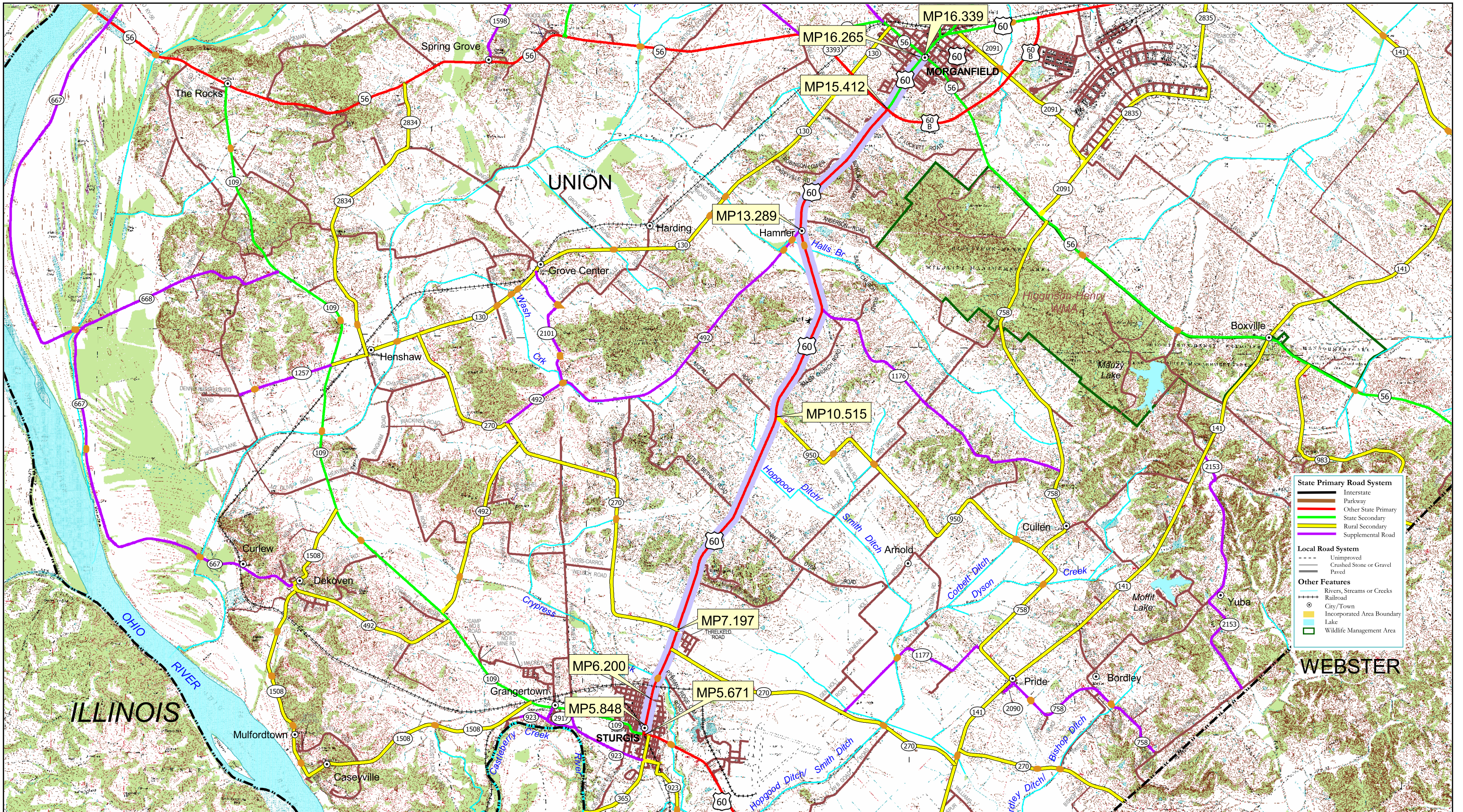




HIGH ACCIDENT SEGMENTS	
	CRF 1.348
	CRF 1.902
	CRF 3.552

Crash Data: 2000 - 2002

**EXHIBIT 3
HIGH CRASH
SEGMENTS**

Union County
US 60
From Sturgis to
Morganfield
Item No 02-8102.00



 STUDY CORRIDOR
 MILE POINT

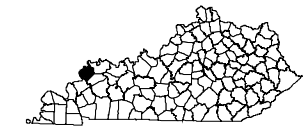
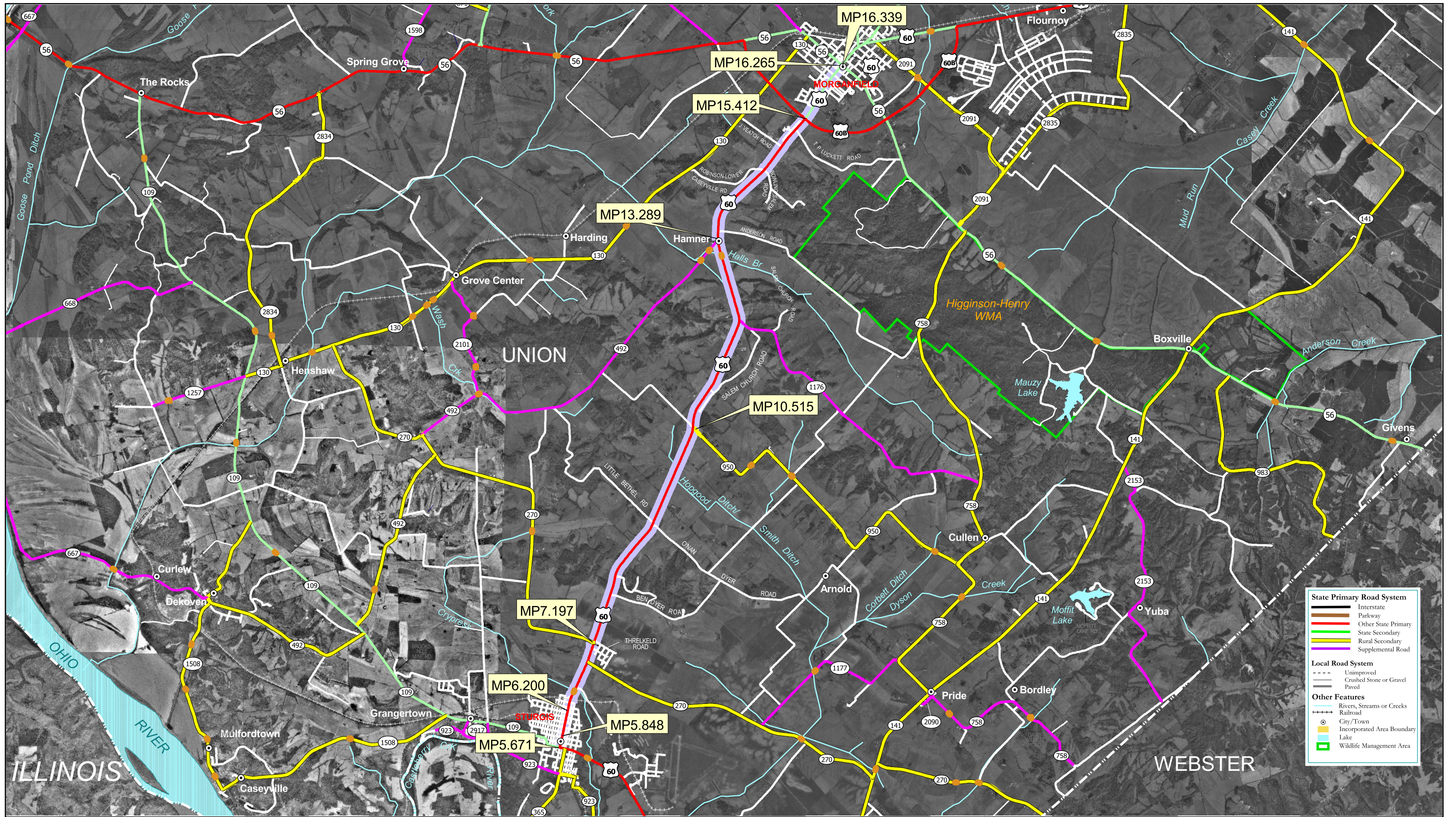


EXHIBIT 4
TOPOGRAPHICAL VIEW
 Union County
 US 60
 From Sturgis to Morganfield
 Item No. 02-8102.00



State Primary Road System	
	Interstate
	Parkway
	Other State Primary
	State Secondary
	Rural Secondary
	Supplemental Road

Local Road System	
	Unimproved
	Crushed Stone or Gravel
	Paved

Other Features	
	Rivers, Streams or Creeks
	Railroad
	City/Town
	Incorporated Area Boundary
	Lake
	Wildlife Management Area

STUDY CORRIDOR

MILE POINT

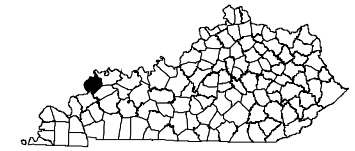


EXHIBIT 5
AERIAL VIEW
 Union County
 US 60
 From Sturgis to Morganfield
 Item No. 02-8102.00

APPENDIX B
ASSUMED TYPICAL CROSS
SECTIONS

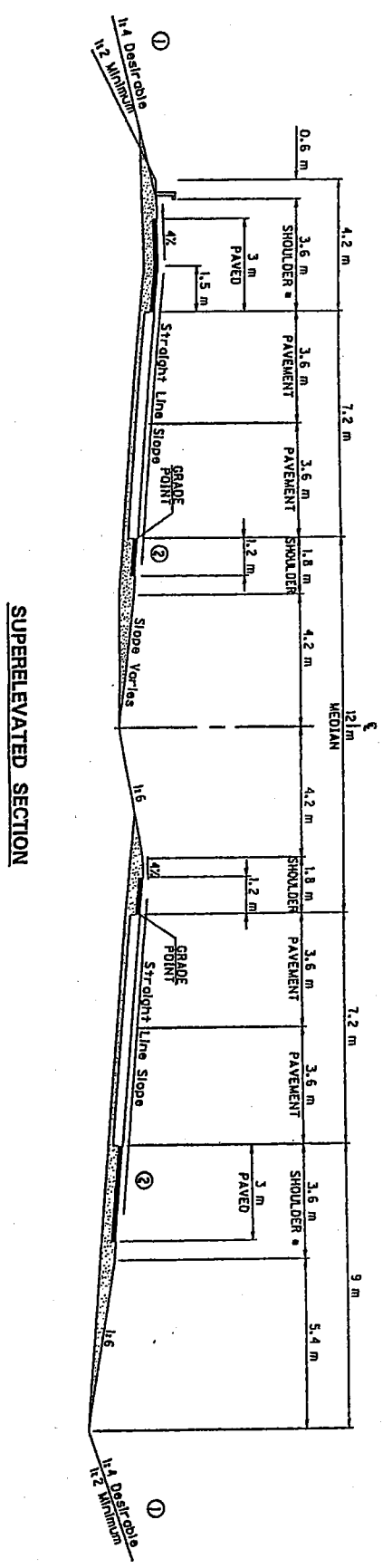
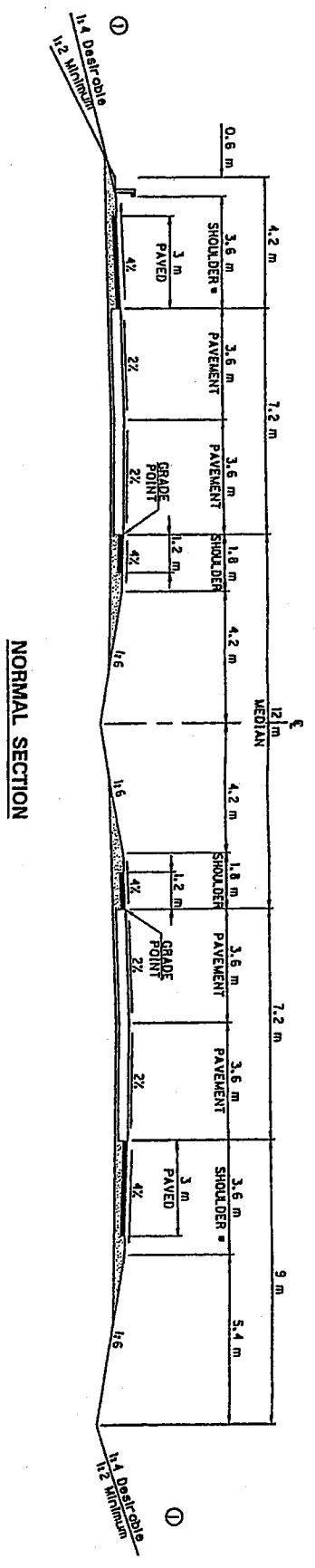
COUNTY	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
UNION		2	

US 60
FROM MORGANFIELD BYPASS
WAVERLY BYPASS
ITEM NO. 2-122A

TYPICAL SECTIONS

U.S. 60

RURAL MINOR ARTERIAL CLASS ROADWAY
100 MPH / 162 MPH DESIGN SPEED
ROLLING TERRAIN
PARTIAL CONTROL OF ACCESS



* SHOULDERS TO BE WIDENED 0.5 m FOR GUARDRAIL

- ① See Cross-sections for slopes outside the limits of the shoulder.
- ② Construct to standard super-elevation of flatter than slopes indicated for normal shoulder.

KENTUCKY
DEPARTMENT OF HIGHWAYS

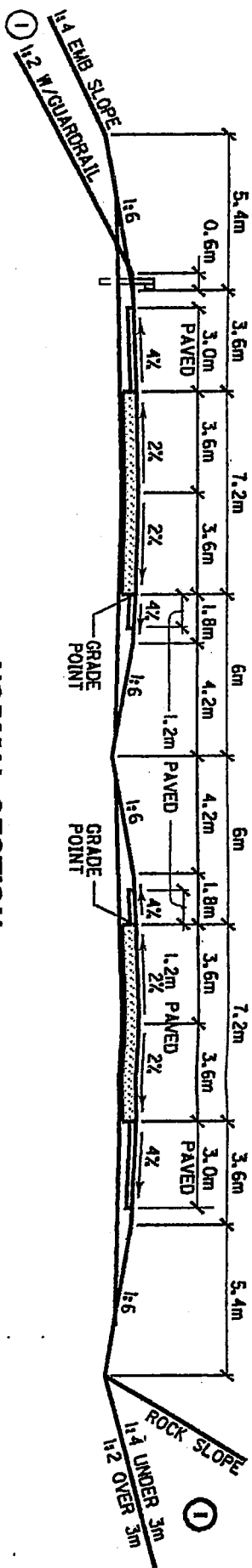
COUNTY OF
Union

U.S. 60

PROJECT NUMBERS **FD52 113 0060 017-021 042D**

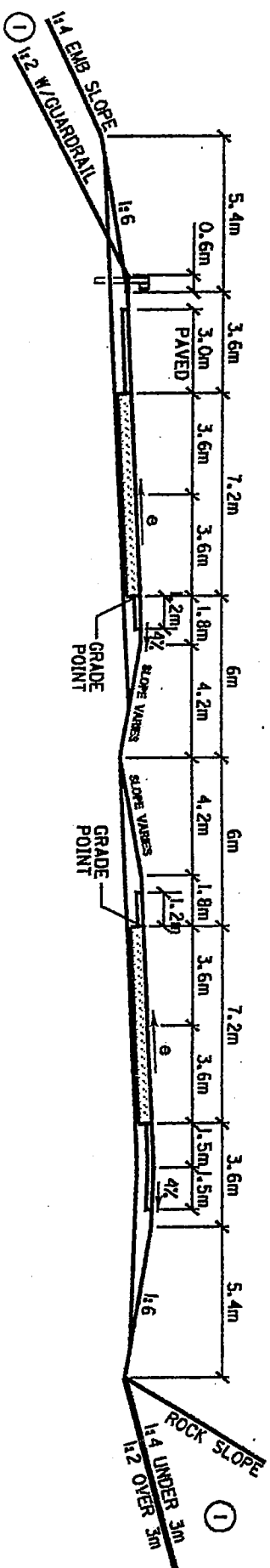
19 BY **T.E.B.M. FOR PRE-CONSTRUCTION**

MAINLINE TYPICAL SECTIONS

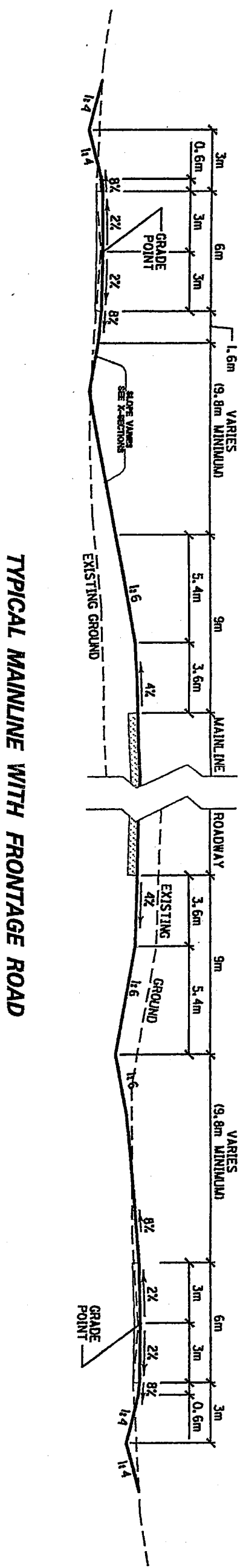


NORMAL SECTION

① SEE X-SECTION SHEETS FOR SLOPES OUTSIDE THE LIMITS OF THE SHOULDER.



SUPERELEVATED SECTION



TYPICAL MAINLINE WITH FRONTAGE ROAD

APPENDIX C
LOCAL OFFICIALS
MEETING MINUTES

Minutes
Programming Study - Officials Meeting
Union County, Item No. 02-8102.00
US 60 from Sturgis to Morganfield

Meeting Location: Paul Herron Technology Center
Meeting Date: July 7, 2003

INTRODUCTION AND PURPOSE

The meeting began at approximately 2:00 p.m. local time.
Those present were:

Richard W. White	Citizen of Union County
Rick Johnson	Union County Board of Education
Larry Joe Jenkins	Union County Fiscal Court
Bob White	Citizen of Union County
Marie White	Citizen of Union County
Chief Tom Carmon	City of Morganfield Police
Jerry Ruark	Union County Economic Development
David Presser	City of Morganfield
Jerry R. Freer	City of Morganfield
Paul T. Cassidy	Union County Planning Commission
Joe Clements	Farmer & Union County Magistrate
Gina Boaz	Green River Area Development District
Nick Hall	KYTC-District 2 Planning
Daryl Greer	KYTC- Division of Planning
Kenneth Pratt	KYTC- Division of Planning
Robert Brown	KYTC- Division of Planning
Joe Tucker	KYTC- Division of Planning

The following Handouts were distributed:

- County Map & Project Location
- Agenda
- General Information and Project Location
- Crash Data
- Los Calculations
- Priorities from the Unscheduled Highway Plan Needs
- Cost Estimate
- Year 2002 Traffic & LOS
- Year 2030 Traffic & LOS
- Map of High Crash Locations & Segments
- Topographic View
- Aerial View

The planning study was described as a study listed in the Six-Year Highway Plan with no other phases currently scheduled. The purpose of the study is to provide guidance for future programming.

PROJECT GOALS AND OBJECTIVES

The handouts, including traffic and crash data, were discussed.

Crash Data

- The crash data was described as being a potential problem if the Critical Rate Factor (CRF) is greater than 1.0.
- The City of Morganfield was noted as having a high accident spot on US 60 from the bypass to downtown.
- Coach's Corner in Sturgis near KY 270 may be another spot that should be looked into further.
- The segment of highway between KY 270 west and KY 270 east was also described as an area thought to have several crashes.
- Most of the crashes are occurring during daylight hours and are believed to be caused by inattention.
- Crash problem in town may be due to the view obstruction caused by trees. It was stated that many of these trees have historic value.

Level of Service Data

- The existing level of service is C through most of the route except for downtown Morganfield which is operating at LOS D.
- Based on KYTC traffic projections and no improvements, the future level of service would be D throughout except for downtown Morganfield, which would be a LOS E.

Logical Termini

- O'Bannon and Truitt Streets (located between US 60 Bypass and KY 56) are congested and have bad lines of sight. The Library is located in this area and on-street parking is allowed. It could get messy and probably would not be prudent to go into town.
- Newer traffic counts, especially truck percentages, need to be checked for downtown Morganfield. It is believed that through trucks traveling on KY 56 are not using the bypass.
- The project should end at the bypass, but use of the bypass needs to be encouraged in order to get vehicles, especially trucks, away from downtown.
- There would be problems expanding the roadway through downtown Sturgis due to a cemetery on both sides of the road and historical properties. The terminus on the Sturgis end of the project should be the proposed Sturgis bypass.

Other Issues

- The schedules outlined in the Six-Year Highway Plan for projects from the Morganfield Bypass to Henderson were discussed.
- The clearinghouse process was discussed due to an issue concerning a new sewer line being placed along US 60.
- Better signage directing traffic to the bypass is desirable. Better signage to KY 56 West and the Shawneetown Bridge were also noted as being desirable. It was stated that the KYTC District 2 office is currently working on additional signage.

- The intersection with US 60 and the west end of the bypass was described as being dark making it difficult to see.
- Access would most likely be partial control.
- Concerns about the fairness of right of way acquisitions were raised.
- KY 56, KY 109, and KY 141 were mentioned as needing improvements. The scheduled improvements for KY 56 were stated as being a very high priority for the region.

Project Goals and Objectives

The previously developed goals were agreed upon:

1. Provide corridor and system connectivity between improved and future improvements on US 60 from Paducah to Henderson.
2. Increase capacity to handle the existing and induced traffic along US 60.
3. Improve safety by improving horizontal and vertical alignments and providing lane and shoulder widths that meet current standards.
4. Enhance regional and local network by providing improved access to schools and the hospital.

POSSIBLE ALTERNATIVES AND CORRIDORS

- Data shows that an improved two-lane highway with 12-foot lanes and 10-foot shoulders will provide a sufficient level of service in design year 2030 if traffic growth continues at the same rate. Proposed projects like I-66 and I-69 may increase traffic more than predicted.
- Continuity of the system should also be considered for the design of the cross section.
- The transporting of farm equipment and the effect on farming in the region should be taken into consideration.
- If four-lane highway is not built, then it should be a two-lane highway on four-lane right of way.
- Any new project should stay close to existing alignment. Staying on alignment between the schools and in front of the hospital was not a concern as long as the stoplight stays up.

AGENCY COORDINATION NEEDS

Those in attendance at the meeting did not note any special groups or agencies that should be contacted in regards to this study.

PUBLIC INVOLVEMENT

It was noted that there was at least an 8-10 year time frame before any construction plan would be complete. Public information meetings will be held at a later time if the project proceeds past the initial programming stage.

APPENDIX D
RESOURCE AGENCY LETTERS



Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

James C. Codell, III
Secretary of Transportation

Paul E. Patton
Governor

Clifford C. Linkes, P.E.
Deputy Secretary

October 23, 2003

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

Dear «Letter_Title» «Last_Name»:

SUBJECT: Planning Study
Union County
US 60, From Sturgis to Morganfield
Item No. 02-8102.00

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 widening and/or relocation reconstruction of US 60 in Union County from KY 109 in Sturgis to KY 56 in Morganfield. 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 December 12, 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.

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:

- Purpose, Issues, Schedule, and Project Goals
- County Map & Project Location
- General Information
- Level of Service Calculations
- Exhibit 1 Year 2002 Traffic and Level of Service
- Exhibit 2 Year 2030 Traffic and Level of Service
- Crash Analysis
- Exhibit 3 High Accident Segments
- USGS Topographic Environmental Footprint
- KYOGIS Orthophoto Environmental Footprint

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Daryl Greer or Joseph Tucker of the Division of Planning by phone at (502) 564-7183 or by email at daryl.greer@mail.state.ky.us or joseph.tucker@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:DJG:JLT:RC

Enclosures

c. Jose Sepulveda (w/a)
Ted Merryman
Everett Green
Kevin McClearn
Steve Hoefler

David Waldner
Tony Vinegar
Doug Taylor
Gina Boaz

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Mr. Jeff Wilson
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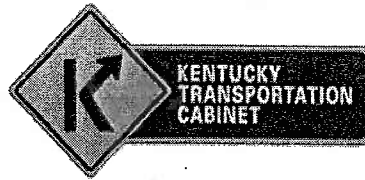
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**PROGRAMMING STUDY
PURPOSE, ISSUES, SCHEDULE, AND PROJECT GOALS
UNION COUNTY, US 60
FROM STURGIS TO MORGANFIELD
ITEM No. 02-8102.00**

STUDY PURPOSE

The purpose of this Alternatives Study is to evaluate US 60 from Sturgis to Morganfield and determine possible alternatives to improve safety and traffic flow. The study is intended to help 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). Items involved with this study include:

- Define project goals;
- Identify the beginning and ending points of the project as well as possible design criteria;
- Discuss project needs and issues with public officials, government agencies, and other groups with a special interest in the project;
- Identify known environmental concerns; and
- Listen to and share information with the public.

ISSUES

The most imperative needs on this section of roadway pertain to system connectivity. Several locations west of the study area have been improved or are scheduled for improvements. Other issues are as follows:

- The current route would operate at a less than desirable Level of Service in the design year of 2030, and with the possibility of many large scale projects including I-66 and I-69, increased traffic may produce considerable congestion.
- Many areas along the route have horizontal and vertical curves that do not meet current design guidelines. Several intersections throughout the study area have less than preferred sight distance.
- Many points of interest such as schools and the county hospital are located along the route.



3 0 3 6 9 Miles


STUDY CORRIDOR



COUNTY MAP & PROJECT LOCATION
UNION COUNTY, US 60
ITEM NO. 02-8102.00

Union County
US 60
From Sturgis to Morganfield

General Information

County: Union
Route: US 60 **Beg MP:** 5.671 **End MP:** 16.300
Item No: 8102
Description: Programming Study for US 60 from Sturgis to Morganfield.

Area Development District (ADD): Green River ADD
Bike Route: No
Coal Haul Route: Yes
Defense Highway: No
Highway District: District 2
Functional Classification: Rural Minor Arterial
National Truck Network: Yes
National Highway System (NHS): No
Number of Bridges: 2 (Lengths 134 and 107 feet)
Pavement type: Mixed
Scenic Byway: No
State System: State Primary (Other)
Truck Weight Class: AAA (80,000 lb. Gross load limit)
Type of Road: Undivided Highway
Type of Terrain: Rolling

Level of Service Calculations

Begin Milepoint	End Milepoint	2002 Average Daily Traffic	Annual Growth Rate	2030 Average Daily Traffic	% Trucks	Lane Width (Feet)	Shoulder Width (Feet)	2002 Level of Service	2030 Level of Service No Improvements.
5.671	5.848	6630	2.4%	12900	6.4%	12	0	C	D
5.848	6.200	6980	2.4%	13600	6.4%	12	0	C	D
6.200	7.197	6130	2.4%	11900	6.4%	12	3	C	D
7.197	10.515	5360	2.4%	10400	6.4%	11	3	C	D
10.515	13.289	6520	2.4%	12700	6.4%	11	3	C	D
13.289	15.412	4500	2.4%	8700	6.4%	11	3	C	D
15.412	16.265	4500	2.4%	8700	6.4%	12	3	C	D
16.265	16.300	8520	2.4%	16600	6.4%	14	0	D	E

Milepoint Descriptions

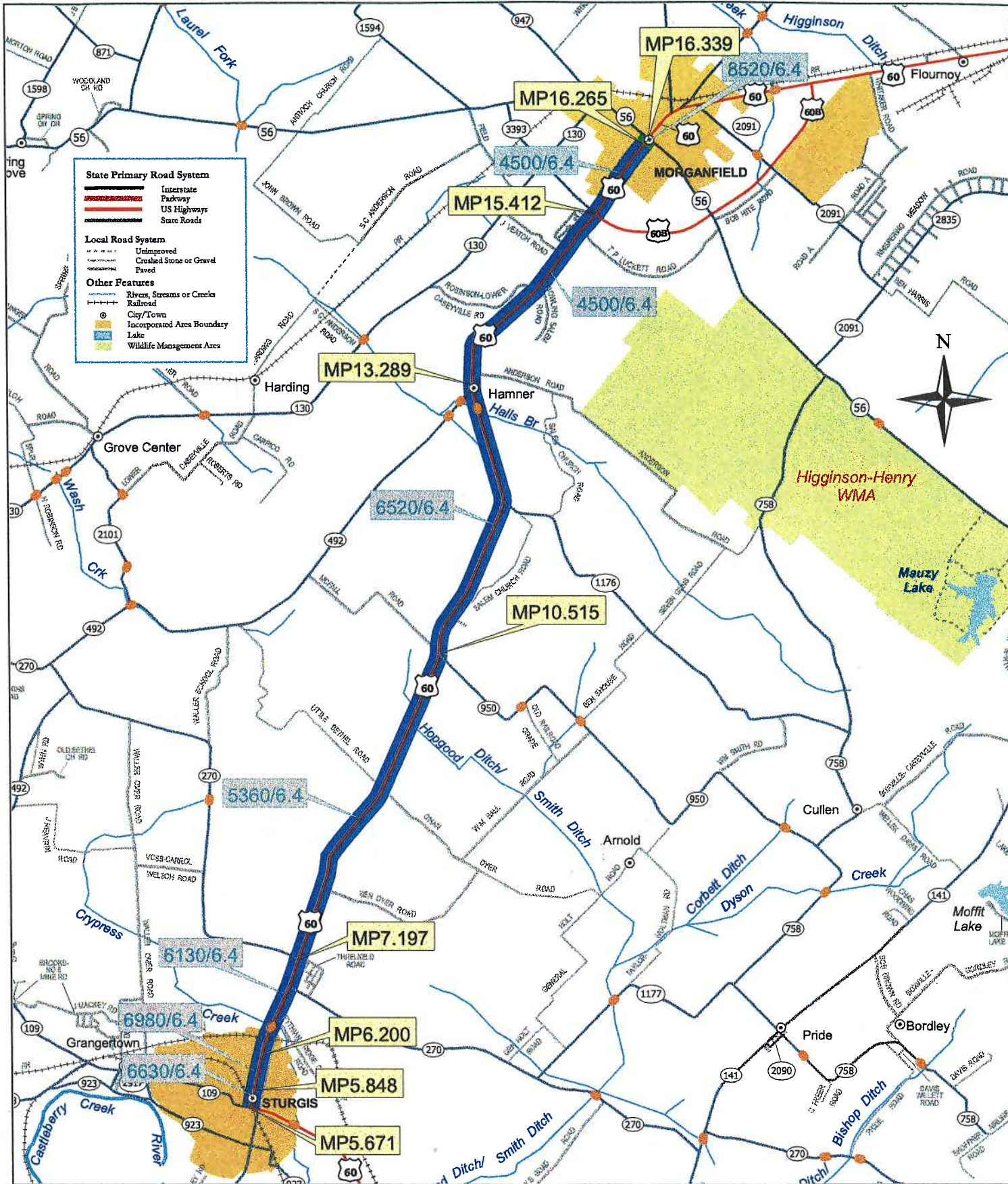
5.671	KY 109 (Main Street in Sturgis)
5.848	7th Street
6.200	12th Street
7.197	KY 270 West
10.515	KY 950/ McFall Road
13.289	KY 492 (Hamner-Henshaw Road)
15.412	US 60 Bypass
16.265	O'Bannon Drive
16.300	Truitt Street

Note:

Level of Service (LOS) is used to describe traffic conditions and includes consideration of speeds, travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. LOS is given letter designations from A to F with LOS A representing free flow conditions and LOS F representing severe congestion. Typically, a minimum LOS D is acceptable in urban areas and LOS C in rural areas.

Exhibit 1 on the next page shows a visual representation of the current LOS on US 60 between Sturgis and Morganfield.

Exhibit 2 shows a visual representation of the projected LOS in the year 2030 on an unimproved US 60 between Sturgis and Morganfield.



1 0 1 2 Miles



State Primary Road System

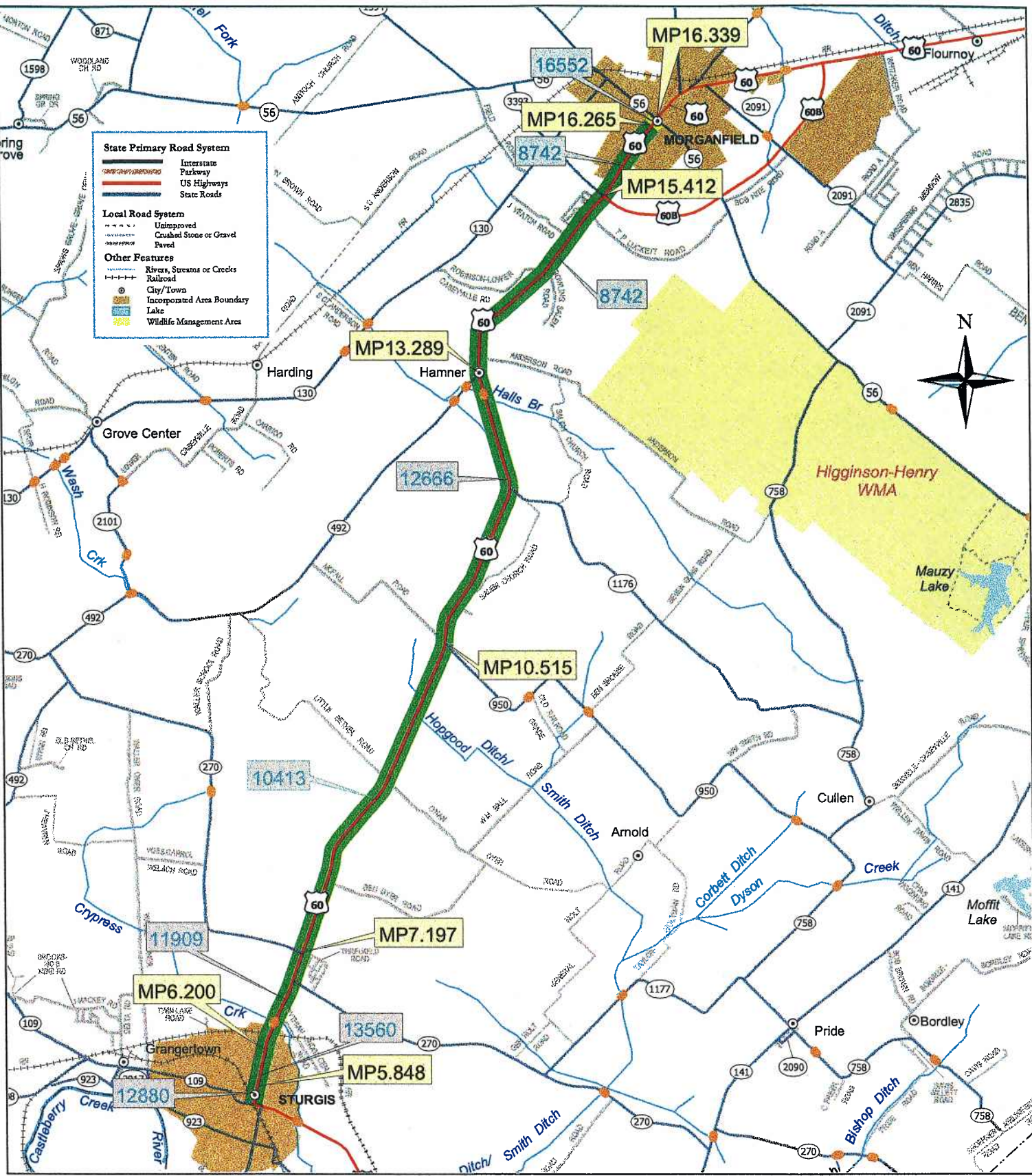
- Interstate
- Parkway
- US Highways
- State Roads

Local Road System

- Unimproved
- Crushed Stone or Gravel
- Paved

Other Features

- Rivers, Streams or Creeks
- Railroad
- City/Town
- Incorporated Area Boundary
- Lake
- Wildlife Management Area

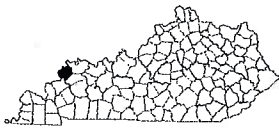


2030 LOS

- D (Dark Green)
- E (Yellow)

2030 ADT

MP0.000 MILE POINT



**EXHIBIT 2
YEAR 2030
TRAFFIC AND LEVEL
OF SERVICE**

Union County
US 60
From Sturgis to
Morganfield
Item No. 02-8102.00

Crash Analysis							
Begin Milepoint	End Milepoint	Average Daily Traffic	Crashes				Critical Rate Factor
			Fatal	Injury	Property Damage Only	Total	
January 1, 2000 to December 31, 2002 Crash Data for Segments							
5.671	5.847	6630	0	1	4	5	0.599
5.848	6.199	6980	0	1	5	6	0.430
6.200	7.196	6130	0	3	10	13	0.466
7.197	10.514	5360	0	14	15	29	0.429
10.515	13.288	6520	1	17	25	43	0.627
13.289	15.411	4500	1	17	36	54	1.348
15.412	16.264	4500	0	11	26	37	1.902
16.265	16.300	8520	0	4	9	13	3.552
January 1, 2000 to December 31, 2002 Crash Data for Spots							
16.000	16.300	4980	0	10	28	38	3.843
14.800	15.100	4500	0	7	19	26	2.817
14.300	14.600	4500	0	4	5	9	0.975

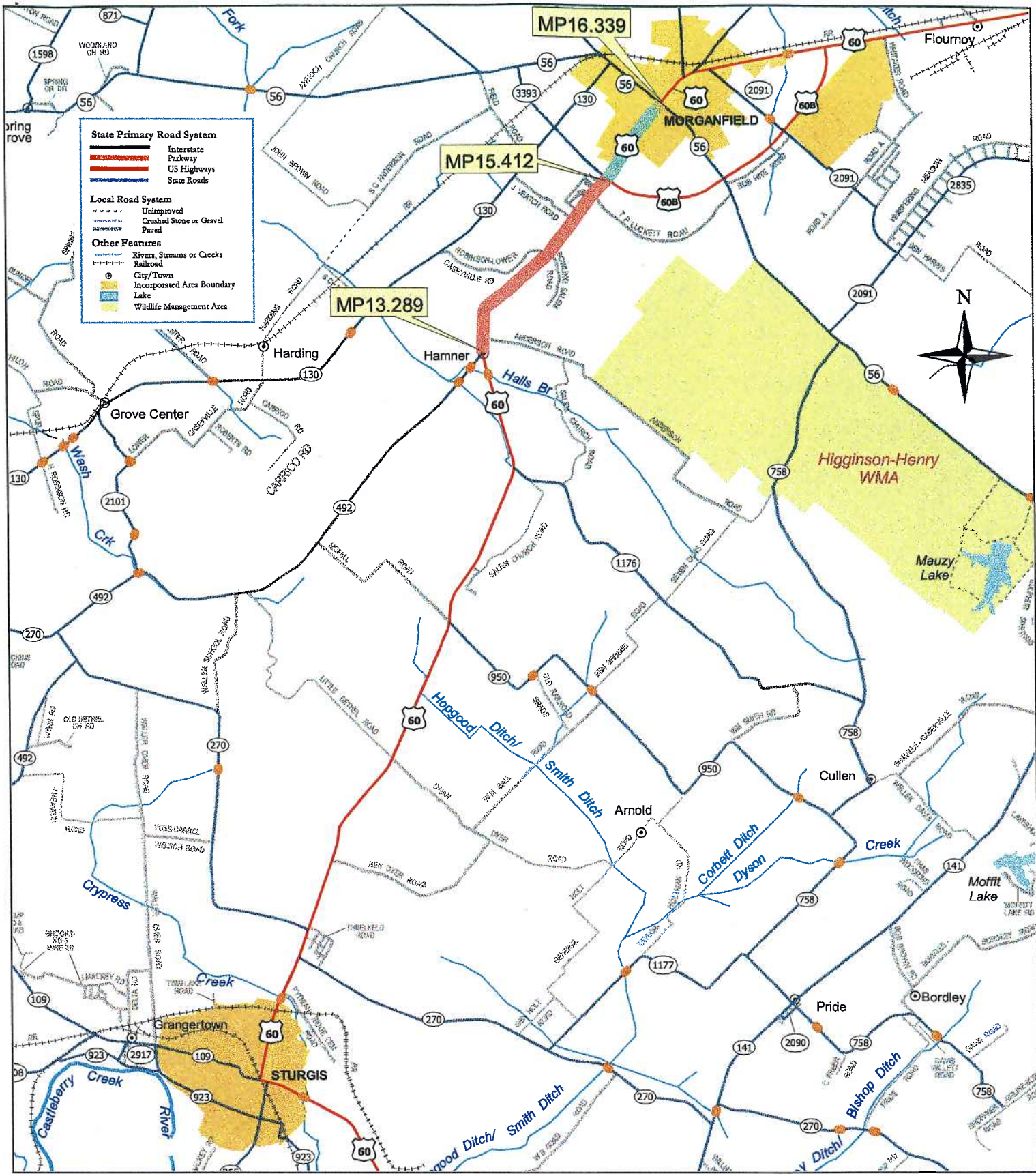
Milepoint Descriptions

5.671	KY 109 (Main Street in Sturgis)
5.848	7th Street
6.200	12th Street
7.197	KY 270 West
10.515	KY 950/ McFall Road
13.289	KY 492 (Hamner-Henshaw Road)
15.412	US 60 Bypass
16.265	O'Bannon Drive
16.300	Truitt Street

Note:

When a spot or segment has a Critical Rate Factor (CRF) greater than 1.00, it indicates that crashes at that location may not be occurring randomly.

Exhibit 3 on the next page shows a visual representation of the high accident segments of US 60 between Sturgis and Morganfield.

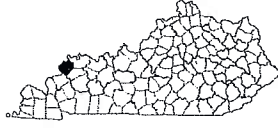


- State Primary Road System**
- Interstate
 - Parkway
 - US Highways
 - State Roads
- Local Road System**
- Unimproved
 - Crushed Stone or Gravel
 - Paved
- Other Features**
- Rivers, Streams or Creeks
 - Railroad
 - City/Town
 - Incorporated Area Boundary
 - Lake
 - Wildlife Management Area

HIGH ACCIDENT SEGMENTS	
	CRF 1.348
	CRF 1.902
	CRF 3.552

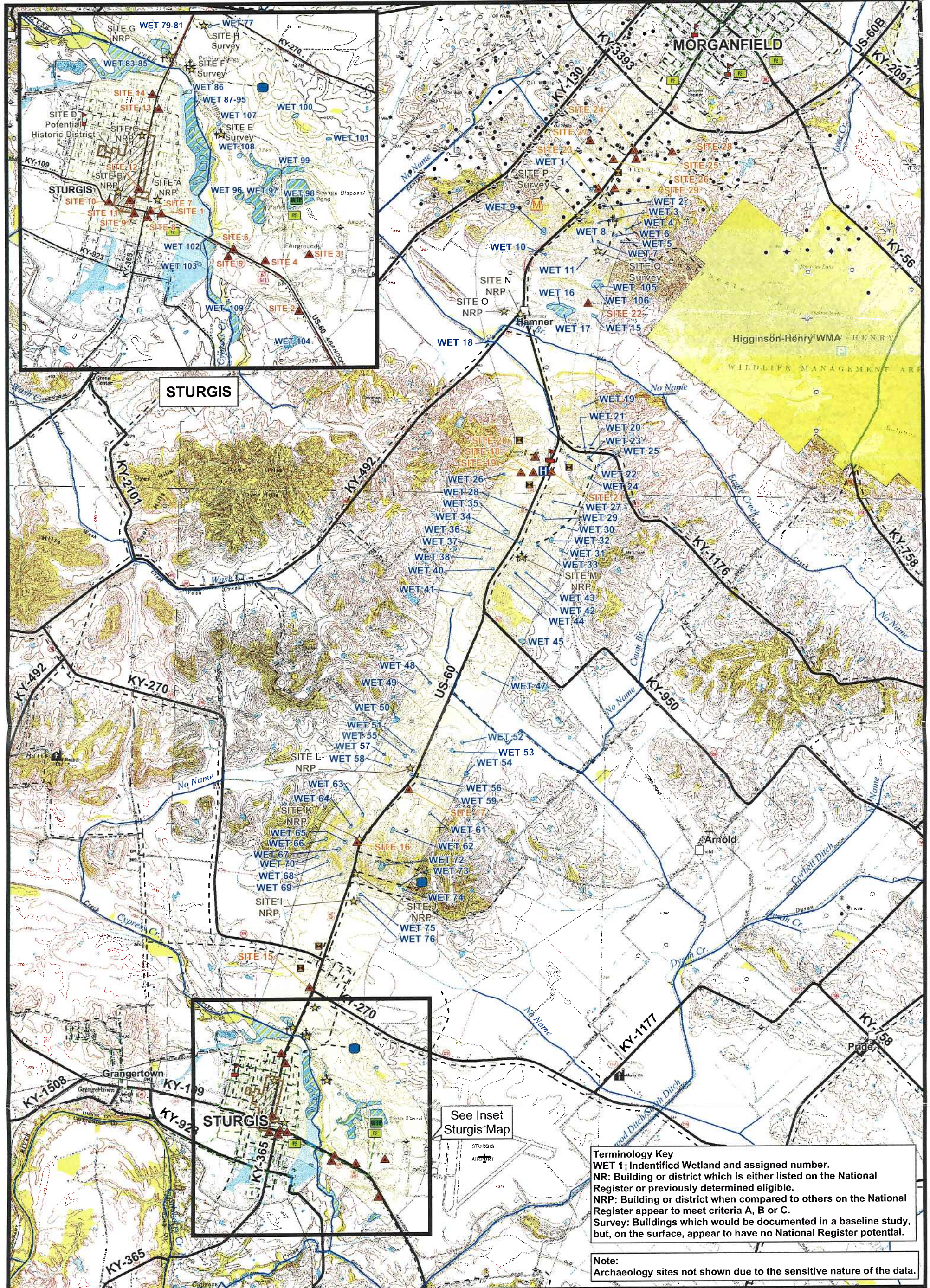
1 0 1 2 Miles

MP0.000 MILE POINT



**EXHIBIT 3
HIGH ACCIDENT
SEGMENTS**

Union County
US 60
From Sturgis to
Morganfield
Item No 02-8102.00



Terminology Key
 WET 1 Identified Wetland and assigned number.
 NR: Building or district which is either listed on the National Register or previously determined eligible.
 NRP: Building or district when compared to others on the National Register appear to meet criteria A, B or C.
 Survey: Buildings which would be documented in a baseline study, but, on the surface, appear to have no National Register potential.

Note:
 Archaeology sites not shown due to the sensitive nature of the data.



- Airport
- Church
- Park
- Populated Place
- Cemetery
- School
- Hospital
- Potential Historic Location
- Potential Historic District
- HAZMAT Site
- Landfill
- Oil Well
- Gas Well
- Combined Oil and Gas
- Newly Permitted Well
- Dry and Abandoned Well
- Miscellaneous Well
- Waterline
- Water Well
- Public Water Source
- Water Tank
- Water Treatment Plant
- Sewers
- Package Plant
- Wastewater Pump Station
- Wastewater Treatment Plant
- Stream
- Wetlands
- 100 Year Floodplain
- State Park
- Conservation/Natural Area
- PROJECT STUDY AREA

4,000 2,000 0 4,000 Feet

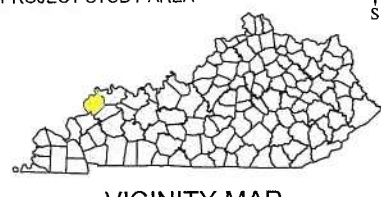


Exhibit 1 Sheet 1 of 1

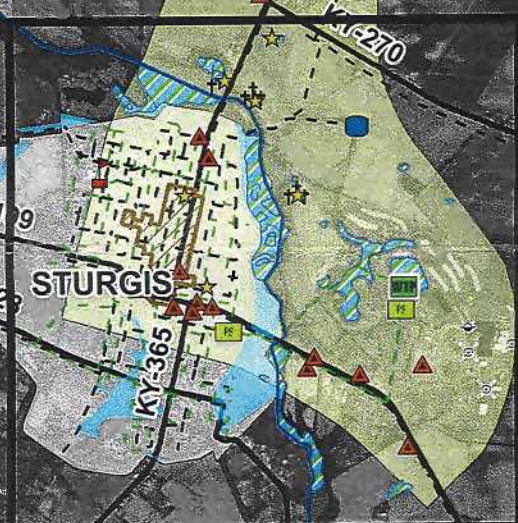
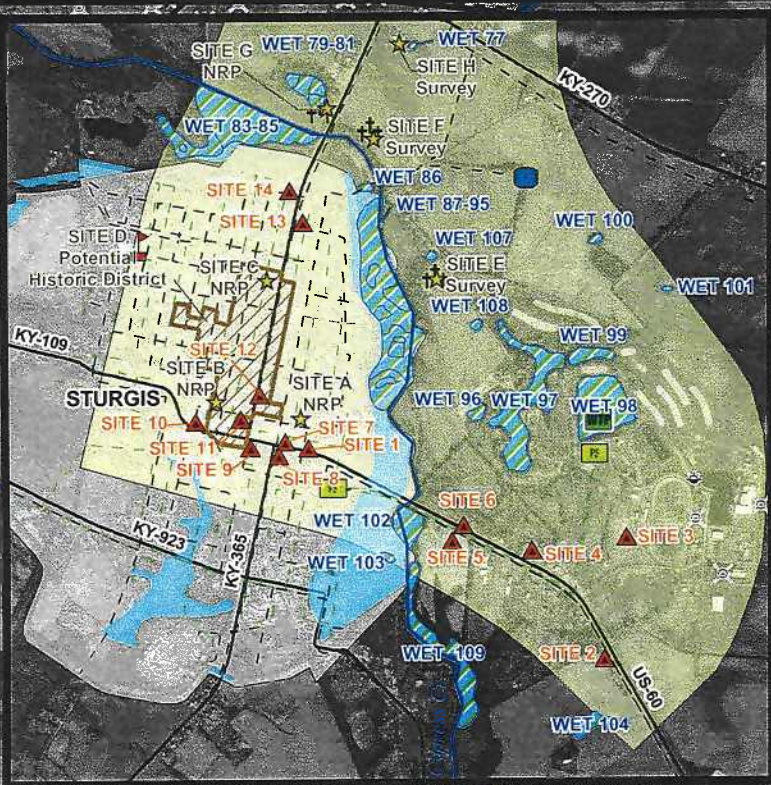
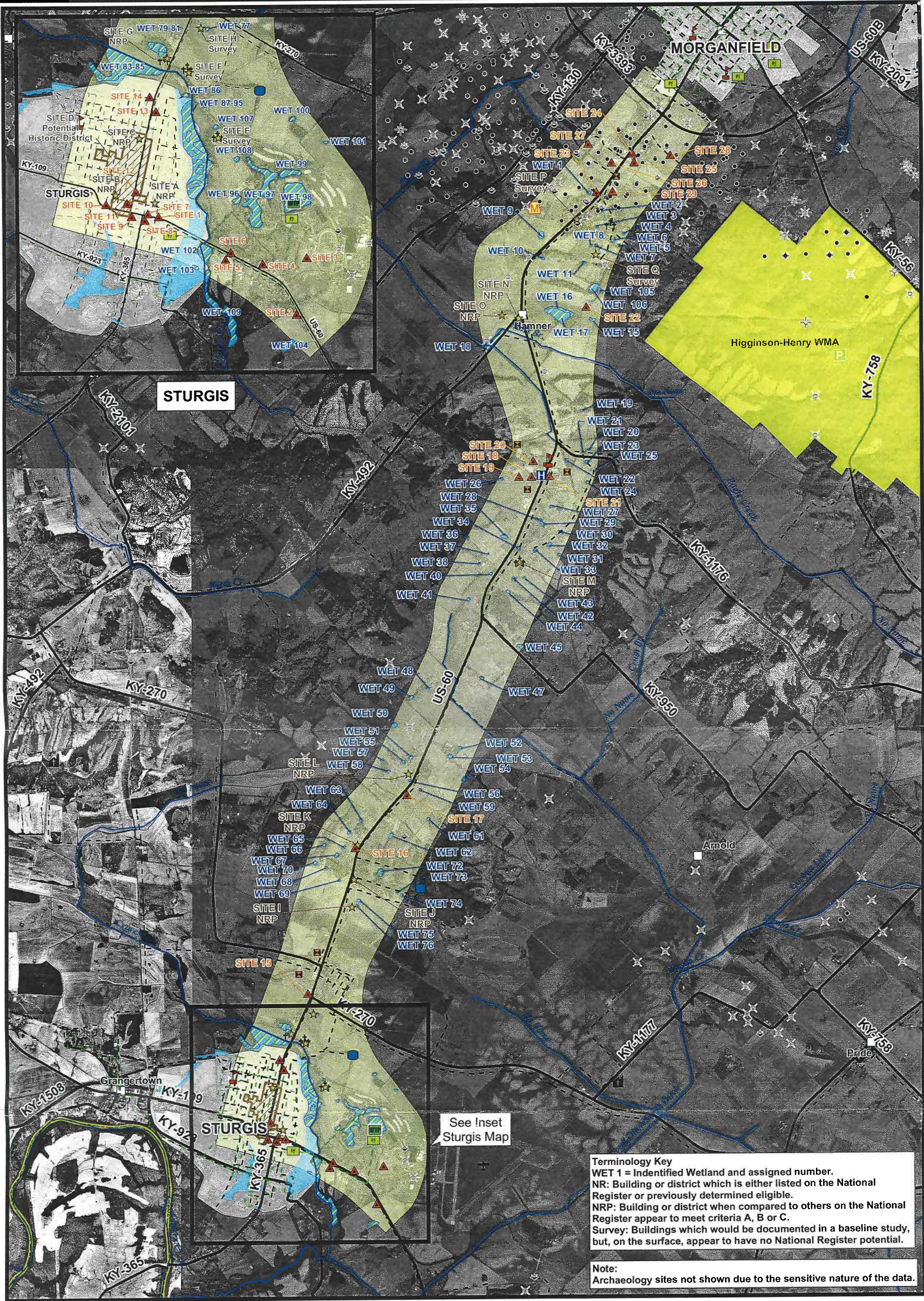
USGS Topographic Environmental Footprint

US 60
 Sturgis to Morganfield
 Union County

KYTC Item No. 2-8102.00



VICINITY MAP



STURGIS

See Inset Sturgis Map

Terminology Key
 WET 1 = Identified Wetland and assigned number.
 NR: Building or district which is either listed on the National Register or previously determined eligible.
 NRP: Building or district when compared to others on the National Register appear to meet criteria A, B or C.
 Survey: Buildings which would be documented in a baseline study, but, on the surface, appear to have no National Register potential.

Note:
 Archaeology sites not shown due to the sensitive nature of the data.



- Airport
- Church
- Park
- Populated Place
- Cemetery
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- Hospital
- Potential Historic Location
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- HAZMAT Site
- Landfill
- Oil Well
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- Wastewater Treatment Plant
- Stream
- Wetlands
- 100 Year Floodplain
- State Park
- Conservation/Natural Area
- PROJECT STUDY AREA

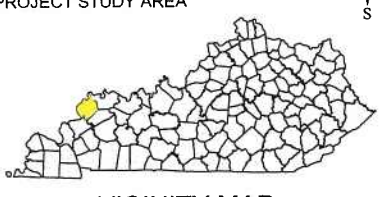
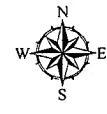
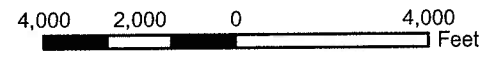


Exhibit 2 Sheet 1 of 1
KYOGIS Orthophoto Environmental Footprint
 US 60
 Sturgis to Morganfield
 Union County
 KYTC Item No. 2-8102.00



DIV OF PLANNING

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

2003 NOV 25 P 2: 27 **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
Union County
US 60, From Sturgis to Morganfield

Thank you for the opportunity to respond to the Planning Study for US 60 from Sturgis to Morganfield, Kentucky. 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.

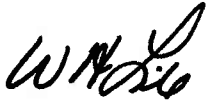
After reviewing the site plan for the construction of a new highway in the area described, I find that the Cabinet for Workforce Development has no objection to the project and I find no negative impact occurring upon the services provided by this agency. An improved roadway would most likely facilitate 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 black ink, appearing to read 'W. H. Lile', written in a cursive style.

W. H. Lile, Secretary
Cabinet for Workforce Development

WL/



DIV OF PLANNING

2003 SEP 17 A 10:37

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

MEMORANDUM

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

From: David M. Waldner, P.E., Director
Division of Environmental Analysis

Date: September 12, 2003

Re: Environmental Overview
US 60 – construct 4 lanes from Sturgis to Morganfield
Union County, Kentucky Item # 2-8102.00

The proposed project for US 60 located in the above-listed county 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 study data presented; additional comments could be provided if/when site visits are conducted:

1. The Air Quality status of the project likely would not be a problem; the project appears to be outside of the area requiring conformity. The planning study should clearly state that the project originates from the latest conforming STIP.
2. Streams, flood prone areas and wetlands appear to be present throughout the area; plans are required in order to provide a detailed assessment of a need for permit. Impacts to these areas should be avoided. These areas would pose mitigation issues if impacted. Avoidance and/or minimization during the design process are recommended. A base study for wetlands will also be required.
3. There is a potential for agricultural/chemical runoff to enter the groundwater system via sinkholes within proximity of the project. An assessment of the immediate area near the sinkholes may be warranted.



KENTUCKY TRANSPORTATION CABINET

"PROVIDE A SAFE, EFFICIENT, ENVIRONMENTALLY SOUND, AND FISCALLY RESPONSIBLE TRANSPORTATION SYSTEM WHICH PROMOTES ECONOMIC GROWTH AND ENHANCES THE QUALITY OF LIFE IN KENTUCKY"

"AN EQUAL OPPORTUNITY EMPLOYER M/F/D"

Annette Coffey
September 12, 2003
Page 2

4. Specific details concerning unknown HAZMAT and storage tanks would need to be obtained through a thorough site assessment.
5. Potential section 4(f) and section 106 issues exist in the project corridor. Several potential National Register sites will require a full baseline study; impacts to these resources should be avoided/minimized.
6. The project could have relocations and should be discussed later in future environmental documents. Farmland impacts and drainage concerns could be substantial if the existing land use should change.
7. USFWS coordinations for endangered species will be required. A biological assessment for the Indiana Bat and Gray Bat will be required.

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 D. Taylor (D2) D. Greer (Planning)

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 **Union County** (US 60, from Sturgis to Morganfield, Item No. 02-8102.00), 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:

Lester O. Carrithers, District Conservationist
USDA-Natural Resources Conservation Service
332 East Waverly Street
Morganfield, KY 42437-1104

phone: (270) 389-1981

Mr. Carrithers can help in identifying important farmlands in the proposed project area.

Sincerely,

A handwritten signature in black ink, appearing to read "David G. Sawyer".

DAVID G. SAWYER
State Conservationist

cc: Lester O. Carrithers, District Conservationist, Morganfield, KY
William E. Giesecke, Area Conservationist, Madisonville, KY

2003 NOV -4 A 10: 17
DIV OF PLANNING



DIV OF PLANNING

2003 OCT 31 A 9:49

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

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 *PM*
Acting Branch Manager
Permits Branch

DATE: October 30, 2003

RE: Planning Study
Union County
US 60, From Sturgis to Morganfield

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 RW 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 RW 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





UNIVERSITY OF KENTUCKY

DIV OF PLANNING

2003 NOV -7 A 11: 28

Kentucky Geological Survey

Research and Graduate Studies
228 Mining and Mineral Resources Building
Lexington, KY 40506-0107
Phone: (859) 257-5500
Fax: (859) 257-1147
www.uky.edu/kgs

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 geologic concerns for the planning study:

Union County
U.S. 60, from Sturgis to Morganfield Ky.
Item No. 02-8102.00

Physiographic Region

The planning study area is in the Western Kentucky Coal Field. It is underlain by sandstone, siltstone, shale, coal, underclay, limestone, gravel, sand, silt, and clay.

Karst Potential

The planning study might encounter some karst features, such as sinkholes and caves, in or near limestone units.

Landslide Potential

The planning study might encounter pre- or post-landslide hazards.

Unconsolidated Sediments

The planning study would encounter unconsolidated sediments such as gravel, sand, silt, and clay.

Resource Conflicts

The planning study might encounter resource conflicts such as prior ownership of property for coal or limestone mining.

Underground Mining

This planning study might encounter areas where coal has been mined below the surface.



Oil Wells

This planning study would encounter the Morganfield South Oil Field, which would have a number of oil wells.

Materials Suitability

The planning study might encounter material for use as construction stone.

Fault Potential

The planning study would encounter several concealed faulted areas.

Earthquake Ground Motions

The planning study area has 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 caused by earthquake bedrock ground motion.

Sincerely,

A handwritten signature in black ink that reads "Richard A. Smath". The signature is written in a cursive, slightly slanted style.

Richard A. Smath
Geologist

cc
Richard Wilson

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

2003 NOV 10 A 11:30
DIV OF PLANNING

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 widening and/or relocation reconstruction of US 60 in Union County from KY 109 in Sturgis to KY 56 in Morganfield, Item Number 02-8102.00. 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.

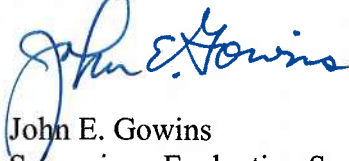


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Ms. Annette Coffey Letter
November 6, 2003
Page 2

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,



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.

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.

Greer, Daryl (KYTC)

From: Palmer-Ball, Brainard (NREPC, KSNPC)
Sent: Thursday, November 06, 2003 10:29 AM
To: Greer, Daryl (KYTC); Tucker, Joseph (KYTC)
Subject: KSNPC response to Planning Study announcement

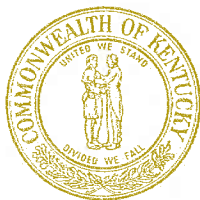
TO: Daryl Greer/Joseph Tucker/Annette Coffey, KTC/Division of Planning

FROM: Brainard Palmer-Ball, Jr., KSNPC

DATE: November 6, 2003

RE: Planning Study for US 60 from Sturgis to Morganfield, Union Co.

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.



DIV OF PLANNING

2003 NOV 12 P 2: 26

COMMONWEALTH OF KENTUCKY
KENTUCKY STATE POLICE
919 VERSAILLES ROAD
FRANKFORT KY. 40601

PAUL E. PATTON
GOVERNOR

PATRICK N. SIMPSON
COMMISSIONER

November 7, 2003

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

Dear Ms. Coffey:

I am in receipt of your correspondence concerning a planning study from US 60 in Union County from KY 109 in Sturgis to KY 56 in Morganfield.

I have forwarded your remarks to Captain Jerry Nauert, Commander of the Henderson Post. He can be reached at (270) 826-3312. Thank you for including our input during the planning stages of this development.

Sincerely,

A handwritten signature in black ink that reads "Rodney Brewer".

Rodney W. Brewer, Lt. Colonel
Director, Division of Police Services

RB:DH:mls

cc: Patrick N. Simpson, Commissioner
Major Dean Hayes, West Troop Commander
Captain Jerry Nauert, Commander, Post 16



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

FISH & WILDLIFE COMMISSION

Mike Boatwright, Paducah
Tom Baker, Bowling Green
Allen K. Gailor, Louisville
Ron 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 12, 2003

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

Re: Threatened/Endangered species and critical habitat review; US Highway 60
Expansion, Item No. 02-8102.00, Union County, 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 both state and federally threatened or endangered species are known to occur in Union County, KY (See attached lists). However, KDFWR does not anticipate any adverse impacts on T&E species. Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

KDFWR has determined that potential negative impacts to the aquatic resources can occur in the project area and offers the following recommendations:

- 1) crossing should be designed and constructed to accommodate high flow conditions;
- 2) development in or near streams only during low flow periods to minimize disturbances;
- 3) culverts should be placed even with substrate to allow aquatic organisms to move freely within stream channel;
- 4) proper placement of erosion control structures below disturbed areas to minimize entry of silt to stream;
- 5) 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;
- 6) return of disturbed instream habitat to its original condition upon completion of construction in the area;
- 7) avoidance of tree canopy overhanging streams; and
- 8) return all right-of-ways to original elevation.



Arnold L. Mitchell Bldg. #1 Game Farm Road Frankfort, Ky 40601
An Equal Opportunity Employer M/F/D

2003 NOV 14 P 2:22

DIV OF PLANNING

Page Two Ms. Coffey
November 12, 2003

It appears the proposed area for the project may include wetland areas. KDFWR recommends that you look at the appropriate US Department of the Interior National Wetlands Inventory Map to determine where the proposed project may impact these wetlands. The appropriate US Army Corps of Engineers office and the Kentucky Division of Water should be contacted before any construction takes place in jurisdictional wetlands. Additionally, KDFWR will recommend at least 2:1 mitigation for any permanent loss or degradation of wetland acreage. Any planning should include measures designed to reduce or eliminate impacts to these areas. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset these losses.

I hope this information will be helpful to you. Should you require additional information, please contact me at (502) 564-7109, ext. 366.

Sincerely,

A handwritten signature in black ink, appearing to read "Brad Pendley", with a long, sweeping underline.

Brad Pendley
Wildlife Biologist

cc: Environmental Section File

Species Information

Viewable/Downloadable Maps

Download GIS Data

KFWIS FTP Site

Links

Species Information

Federal Threatened and Endangered Species observations for selected counties

Linked life history provided courtesy of [NatureServe Explorer](#).
[US Status Definitions](#) [Kentucky Status Definitions](#)

List **Federal Threatened and Endangered Species** observations in **1** selected county.

Selected county is: UNION.
5 records are listed.

Page 1 of 1

Scientific Name	Common Name	Class	County	US Status	KY Status	Reference
<i>ALOSA ALABAMAE</i>	ALABAMA SHAD	OSTEICHTHYES	UNION	C	E	Reference
<i>HALIAEETUS LEUCOCEPHALUS</i>	BALD EAGLE	AVES	UNION	LT	E	Reference
<i>POTAMILUS CAPAX</i>	FAT POCKETBOOK	BIVALVIA	UNION	LE	E	Reference
<i>MYOTIS SODALIS</i>	INDIANA BAT	MAMMALIA	UNION	LE	E	Reference
<i>STERNA ANTILLARUM ATHALASSOS</i>	INTERIOR LEAST TERN	AVES	UNION	LE	E	Reference



Last Updated - 03/27/03

Species Information

Species Information

State Threatened and Endangered Species observations for selected counties

Viewable/Downloadable Maps

Linked life history provided courtesy of [NatureServe Explorer](#).
[US Status Definitions](#) [Kentucky Status Definitions](#)

Download GIS Data

List **State Threatened and Endangered Species** observations in **1** selected county.
Selected county is: UNION.
25 records are listed.

KFWIS FTP Site

Page 1 of 1

Links

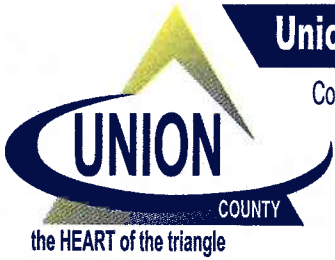
Scientific Name	Common Name	Class	County	US Status	KY Status	Ref
<i>ALOSA ALABAMAE</i>	ALABAMA SHAD	OSTEICHTHYES	UNION	C	E	Ref
<i>FULICA AMERICANA</i>	AMERICAN COOT	AVES	UNION	N	H	Ref
<i>LITHASIA ARMIGERA</i>	ARMORED ROCKSNAIL	GASTROPODA	UNION	N	S	Ref
<i>HALIAEETUS LEUCOCEPHALUS</i>	BALD EAGLE	AVES	UNION	LT	E	Ref
<i>VIREO BELLII</i>	BELL'S VIREO	AVES	UNION	N	S	Ref
<i>NYCTICORAX NYCTICORAX</i>	BLACK-CROWNED NIGHT-HERON	AVES	UNION	N	T	Ref
<i>ANAS DISCORS</i>	BLUE-WINGED TEAL	AVES	UNION	N	E	Ref
<i>ICHTHYOMYZON CASTANEUS</i>	CHESTNUT LAMPREY	CEPHALASPIDOMORPHI	UNION	N	S	Ref
<i>NERODIA ERYTHROGASTER NEGLECTA</i>	COPPERBELLY WATERSNAKE	REPTILIA	UNION	N	S	Ref
<i>JUNCO HYEMALIS</i>	DARK-EYED JUNCO	AVES	UNION	N	S	Ref
<i>POTAMILUS CAPAX</i>	FAT POCKETBOOK	BIVALVIA	UNION	LE	E	Ref
<i>CORVUS OSSIFRAGUS</i>	FISH CROW	AVES	UNION	N	S	Ref
<i>ARDEA HERODIAS</i>	GREAT BLUE HERON	AVES	UNION	N	S	Ref
<i>ARDEA ALBA</i>	GREAT EGRET	AVES	UNION	N	E	Ref
<i>MYOTIS SODALIS</i>	INDIANA BAT	MAMMALIA	UNION	LE	E	Ref
<i>STERNA</i>	INTERIOR					

<u>ANTILLARUM ATHALASSOS</u>	INTERIOR LEAST TERN	AVES	UNION	LE	E	Ref
<u>EMPIDONAX MINIMUS</u>	LEAST FLYCATCHER	AVES	UNION	N	E	Ref
<u>ICTINIA MISSISSIPPIENSIS</u>	MISSISSIPPI KITE	AVES	UNION	N	S	Ref
<u>CIRCUS CYANEUS</u>	NORTHERN HARRIER	AVES	UNION	N	T	Ref
<u>ANAS CLYPEATA</u>	NORTHERN SHOVELER	AVES	UNION	N	E	Ref
<u>PANDION HALIAETUS</u>	OSPREY	AVES	UNION	N	T	Ref
<u>SITTA CANADENSIS</u>	RED- BREASTED NUTHATCH	AVES	UNION	N	E	Ref
<u>PASSERCULUS SANDWICHENSIS</u>	SAVANNAH SPARROW	AVES	UNION	N	S	Ref
<u>TOXOLASMA TEXASIENSIS</u>	TEXAS LILLIPUT	BIVALVIA	UNION	N	E	Ref
<u>NYCTANASSA VIOLACEA</u>	YELLOW- CROWNED NIGHT- HERON	AVES	UNION	N	T	Ref



Last Updated - 03/27/03

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Union County Economic Development Foundation, Inc.

Courthouse - 100 West Main Street P.O. Box 374 Morganfield, Kentucky 42437 (270) 389-9600 (877) 459-1593 Toll Free (270) 389-0944 Fax

DIV OF PLANNING

2003 NOV 18 A 9: 38

17 November 2003

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

RE: Union County Planning Study – U S 60

Director Coffey,

Thank you for the opportunity to comment on the referenced planning study.

The only comment we have on the information received is that we believe the U S 60 improvement should start at the Morganfield U S 60 Bypass (MP15.412) and end at the 270 E intersection on the Sturgis section.

Thank you for your consideration.

Sincerely,

Jerry R. Ruark
Executive Director

Greer, Daryl (KYTC)

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.

Greer, Daryl (KYTC)

From: Siria, Bruce (KYTC)
Sent: Thursday, November 20, 2003 8:43 AM
To: Hall, Nick (KYTC-D02); Greer, Daryl (KYTC)
Subject: FW: Planning studies state wide

-----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

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
Union County
US 60, from Sturgis to Morganfield, Item Number 02-8102.00

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 not identified any specific issues or concerns regarding the proposed project at this time. However, given the dynamic nature of the stone industry and the development of the proposed highway, we will welcome the opportunity to further comment on the project in the future.

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,

A handwritten signature in blue ink that reads "Carl E. Campbell" with a stylized flourish at the end.

Carl E. Campbell
Commissioner

CEC:JM:kac



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C-17 Geotech
Wilson

A-2

MEMORANDUM

DIV OF PLANNING

P-10-2003

TO: Annett Coffey, P.E. 2003 DEC -1 A 11: 28
Director
Division of Planning

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

BY: R.T. Wilson, P.G. *R.T. Wilson*
Geotechnical Branch

DATE: November 26, 2003

SUBJECT: Union County
FD04 113 0060 D
US 60 Sturgis to Morganfield
Preliminary Geotechnical Review
Item 2-8102.00

Personnel from this office for the subject project have completed a preliminary geologic review.

The proposed corridor is located on the middle and upper Pennsylvanian age series of rocks and Pleistocene silts and clays. The Sturgis and Carbondale formations consist of alternating layers sandstones, shales and coals.

Rock strata dips to the northeast at a rate of 250 feet per mile. The Rough Creek Fault System is present south of Morganfield and will cross the corridor perpendicular to the study area, by limiting cut and fill heights stability problems associated with faulting will be manageable.

Abandon multiple seam coal mines are between US 60 and KY 56 in the Kentucky No. 9 and Kentucky No. 11 at a depth of 150' to 300' adjacent to Morganfield. Additionally, abandon coal mine is present from Sturgis city limits to near Dyer Road north of town at a depth of 150' to 500'. Mine subsidence problems are possible with in the study area. Structures whether on soil or rock should be designed for a yielding foundation.

Numerous oil and gas wells are located on this project near the Rough Creek fault. In addition, water injection wells to enhance oil recovery are also present. It is not possible to avoid crossing this area. Therefore, care needs to be exercised in avoiding

these injection and recovery wells, which prevents damaging this entire oil/gas recovery operation.

This project is in earthquake seismic zone III, which in an area of heavy property damage.

GEOTECHNICAL CONSIDERATIONS...

- 1/. Soil depth range from 5' in the rolling hills to 50' in the bottoms.
- 2/. The average soil stripping depth is estimated to be 3" and a soil shrinkage of 3% is suggested. A rock swell factor is estimated to be 5%.
- 3/. A CBR value of 3 is recommended for soil subgrade, therefore, chemical stabilization of the subgrade is likely.
- 4/. Cut slopes in the shales and sandstones will be stable on ½:1 presplit with a 15' overburden bench at the bottom of the rock disintegration zone. The RDZ is estimated to extend 10' to 20' below groundline in the cut sections.
- 5/. Soil overburden in cut sections should be stable on a 2:1 slope; however, the soil is highly erodible.
- 6/. Special shale compaction may be required where Non-durable shale is used for embankment construction.
- 7/. Embankment benches will be necessary in side hill conditions. Limestone rock (2' minimum) should be placed on the benches for drainage.
- 8/. For estimating quantities an overall 2:1 slope should be used in cut and embankment sections.

BILLY RAY SMITH
COMMISSIONER



OFFICE TELEPHONE
(502) 564-4696
FAX: (502) 564-2133
TTY: (502) 564-2075

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF AGRICULTURE
500 MERO STREET, 7TH FLOOR
FRANKFORT, KY 40601

December 1, 2003

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

SUBJECT: Planning Study
Union County
US 60 from Sturgis to Morganfield

Ms. Coffey:

In response to the planning study in Union County, the Department of Agriculture is interested in the impact that the proposed highway project will have on agriculture in Union County. The agricultural industry is important to all of Kentucky, especially the rural areas such as Union County.

Changes in agriculture not only affect farmers directly, but they also trickle throughout the entire economy making impacts on many other businesses. This fact makes it sensible to give land that is considered prime and statewide unique special consideration. Alternatives that disrupt the least amount of farmland should be seriously considered since agriculture is vital to the overall well-being of Union County and its citizens.

Feel free to contact me for any additional information.

Sincerely,

A handwritten signature in blue ink that reads "Ira Linville".

Ira Linville
Executive Director
Office of Environmental Services

2003 DEC -3 A 10:27
DIV OF PLANNING



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Tucker, Joseph (KYTC)

From: Greer, Daryl (KYTC)
Sent: Tuesday, December 02, 2003 3:56 PM
To: Tucker, Joseph (KYTC)
Subject: FW: DOT Planning Study-Union County



union_dot.xls



Superfund Sites By
County For ...

Let me know if the attachments didn't come through - there are two, a pdf and

spreadsheet.

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

From: Ballard, Kim (NREPC, DEP)
Sent: Tuesday, December 02, 2003 3:52 PM
To: Greer, Daryl (KYTC)
Cc: Hatton, Tony (NREPC, DEP)
Subject: DOT Planning Study-Union County

On behalf of Tony Hatton, Acting Director
Division of Waste Management's comments on:
Planning Study
Union County

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):

Underground Storage Tank Branch (contact Lori Terry):

Enforcement Branch (contact Barbara Cornett):
Enforcement Branch has 3 facilities which have Highway 60 in Union county as the address. They are:

Facility Name	Program	Status
Earle C. Clements Job Corp Center	Petroleum releases	Case closed
Larry's Top Cat Service	UST	Case closed
Union County Methodist Hospital	UST	Case closed

COUNTY_CODE	COUNTY_NAME	SITE_SEQ_ID	SITE_NAME	NVL(C.STREET_ADDRESS,C.PO_ADDRESS)	CITY	ST	POSTAL_CO
113	UNION	26113	MORGANFIELD AIRPORT	ROAD E	MORGANFIELD	KY	42437
113	UNION	67113	UNION COUNTY JAIL	100 W MAIN ST (COURT ST)	MORGANFIELD	KY	42437
113	UNION	123113	SONOCO PRODUCTS COMPANY	MORGANFIELD INDUSTRIAL PK	MORGANFIELD	KY	42437
113	UNION	265113	HAGAN MOTOR SERVICE	HWY 60 & MAPLE ST	WAVERLY	KY	42462
113	UNION	657113	UNION CO METHODIST HOSPITAL	4604 US HWY 60 W	MORGANFIELD	KY	42437
113	UNION	755113	UNION COUNTY/MAINT GARAGE	BEAVER DAM RD	MORGANFIELD	KY	42437
113	UNION	1001113	LARRYS TOP CAT SERV 61-0978078	809 US 60 N	MORGANFIELD	KY	42437
113	UNION	1003113	QUICK STOP MART (KWIK STOP)	969 HWY 60 W	MORGANFIELD	KY	42437
113	UNION	1004113	BUDS COUNTRY CORNER	8052 ST RD 141	MORGANFIELD	KY	42437
113	UNION	1005113	THE PIT STOP	14 ST RT 2835	UNION	KY	42437
113	UNION	1006113	WILLIAM F POLK TRUST PROPERTY	353 W MAIN ST	MORGANFIELD	KY	42437
113	UNION	1007113	CAR VALET SERVICE INC	556 W MAIN ST	MORGANFIELD	KY	42437
113	UNION	1008113	JR FOOD MART #702	401 N MORGAN	MORGANFIELD	KY	42437
113	UNION	1009113	CITY OF MORGANFIELD STREET DEPT	W WAVERLY ST	MORGANFIELD	KY	42437
113	UNION	1011113	THORNTONS AUTO PARTS & SALES NC	10554 ST RD 56 W	STURGIS	KY	42459
113	UNION	1012113	FORMER NORTH MAIN DX	HWY 60 N	STURGIS	KY	42459
113	UNION	1013113	MORGANS GAS & OL INC PROPERTY	409 N COURT ST	MORGANFIELD	KY	42437
113	UNION	1014113	BILL FARTHING PROPERTY	RR 3 BOX 6 HWY 60 S	STURGIS	KY	42459
113	UNION	1015113	WILLIAM HARRIS PROPERTY	UNIONTOWN 4852 SR 130 N	UNIONTOWN	KY	42461
113	UNION	1016113	VAUGHNS GARAGE	14961 HWY 60	SULLMAN	KY	42460
113	UNION	1017113	GIRTEN PROPERTY	103 MLL ST	UNIONTOWN	KY	42461
113	UNION	1018113	STURGIS WASTE WATER TREATMENT PL	4TH & KING ST	STURGIS	KY	42459
113	UNION	1019113	HUCKS FOOD STORE #291	600 HWY 60 N	MORGANFIELD	KY	42437
113	UNION	1020113	HUCKS FOOD STORE #302	620 N MAIN ST	STURGIS	KY	42459
113	UNION	1052113	WABASH ELEVATOR CO	MADISON ST	UNIONTOWN	KY	42461
113	UNION	1054113	QUICK STOP #30	9384 HWY 60 N	STURGIS	KY	42459
113	UNION	1155113	SOUTHERN STATES MORGANFIELD COOP	304 N TOWNSEND ST	MORGANFIELD	KY	42437
113	UNION	1157113	LINDLES IGA	12TH & MAIN	STURGIS	KY	42459
113	UNION	1213113	HUDSON OIL (RON HUDSON)	HWY 60 E	SULLMAN	KY	42460
113	UNION	1572113	EARL C CLEMENTS JOB CORP	EARL C CLEMENTS JOB CORPS	MORGANFIELD	KY	42437
113	UNION	1578113	TURNERS CONOCO SERVICE CENTER	255 N MORGAN ST	MORGANFIELD	KY	42437
113	UNION	1710113	IDEAL MARKET#22	425 N MORGAN	MORGANFIELD	KY	42437
113	UNION	1794113	C & C FORD MERCURY	103 E 5TH ST	STURGIS	KY	42459
113	UNION	1868113	JOSEPH W SPRAGUE	ROUTE 5	MORGANFIELD	KY	42437
113	UNION	1880113	SHELLER-GLOBE CORP	HWY 60 E	MORGANFIELD	KY	42437
113	UNION	1893113	STURGIS MARATHON	5TH & MONROE	STURGIS	KY	42459
113	UNION	1934113	J & J SERVICE CTR (J&B SERVICE)	1425 N MAIN ST	STURGIS	KY	42459
113	UNION	1940113	STURGIS STANDARD	315 E 5TH ST	STURGIS	KY	42459
113	UNION	1953113	UNION FERTILIZER CO INC	518 N MORGAN	MORGANFIELD	KY	42437
113	UNION	2012113	MORGANS GAS & OL INC	HWY 60 N	MORGANFIELD	KY	42437
113	UNION	2152113	UNION CO AIR BOARD	HWY 60 W	STURGIS	KY	42459
113	UNION	2486113	STURGIS WASTE WATER TREATMENT	INDUSTRIAL PARK STURGIS AIRPORT	STURGIS	KY	42459
113	UNION	2526113	MORGANFIELD BUS GARAGE	252 N BRADYST	MORGANFIELD	KY	42437
113	UNION	2527113	STURGIS BUS GARAGE	524 W 10TH ST	STURGIS	KY	42459
113	UNION	2622113	HIGGS CAR VALET	251 N MORGAN	MORGANFIELD	KY	42437
113	UNION	2688113	YOUNG & CONWAY	115 AIRLINE RD	MORGANFIELD	KY	42437
113	UNION	2824113	UNITED TECHNOLOGES AUTOMOTIVE	WHY 60 E	MORGANFIELD	KY	42437
113	UNION	2943113	MORGAN CONCRETE INC	HWY 109 W	STURGIS	KY	42459
113	UNION	3453113	RICKETTS DITCHING CO INC	ROUTE 4	MORGANFIELD	KY	42437
113	UNION	3478113	HENDERSON UNDN RURAL ELECTRIC	STURGIS AIRPORT	STURGIS	KY	42459
113	UNION	3886113	GAS PLUS	408 N MORGAN ST	MORGANFIELD	KY	42437
113	UNION	4113113	PYRO MINING COMPANY	PO BOX 289	STURGIS	KY	42489
113	UNION	4221113	RAYLOC	HWY 60 E	MORGANFIELD	KY	42437
113	UNION	5134113	GREENWELL EXCAVATING INC	192 HOUSEBRIDGE RD	WAVERLY	KY	42462
113	UNION	5393113	UNION CO GAS & OL	5TH & MLL ST	UNIONTOWN	KY	42461
113	UNION	5456113	UNIONTOWN SERVICE CENTER	204 MLL ST	UNIONTOWN	KY	42461
113	UNION	5475113	FERGYS MARKET	330 UPPER MAN ST	UNIONTOWN	KY	42461
113	UNION	5561113	FORMERLY CORKS CAR CARE	131 N MORGAN ST	MORGANFIELD	KY	42437
113	UNION	6167113	JUMPIN JACKS FOOD MART#414	5284 HWY 60 N	WAVERLY	KY	42461
113	UNION	6618113	PHILS PICK EM UP	US HWY 60 N	MORGANFIELD	KY	42437
113	UNION	8271113	HAMILTON NO 1	HWY 871	MORGANFIELD	KY	42437
113	UNION	8272113	HAMILTON NO 2 MINE	HWY 360	MORGANFIELD	KY	42437
113	UNION	8273113	OHIO NO 11 MINE	HWY 360	UNIONTOWN	KY	42461
113	UNION	8375113	FOEMAN SHELTON DISTR INC	HWY 60 W	MORGANFIELD	KY	42437
113	UNION	8376113	COUNTRY CORNER (JOHNSON)	10437 STATE ROUTE 56 W	STURGIS	KY	42459
113	UNION	8378113	J & J ASHLAND	1425 MAN	STURGIS	KY	42459
113	UNION	8379113	PEABODY CAMP TERMINAL	KY HWY 360	UNIONTOWN	KY	42461
113	UNION	8518113	ROBERT GREENWELL	334 N MORGAN ST	MORGANFIELD	KY	42437
113	UNION	8520113	SIMPSONS	ROUTE 2	STURGIS	KY	42459
113	UNION	8639113	GIPSON INC	US HWY 60 E	WAVERLY	KY	42462
113	UNION	8640113	HAYES OIL CO	10926 HWY 109	STURGIS	KY	42459
113	UNION	9228113	PEABODY COAL CO CAMP 1 MNE	MCCLURE CHAPEL RD	MORGANFIELD	KY	42437
113	UNION	9229113	PEABODY COAL CO CAMP 2 MNE	HWY 141	WAVERLY	KY	42462
113	UNION	9230113	PEABODY COAL CO CAMP 9 PREP PLAN	HWY 141	WAVERLY	KY	42462
113	UNION	9231113	PEABODY COAL CO CAMP 11 MNE	HWY 141	WAVERLY	KY	42462
113	UNION	9995113	THE PANTRY #721	11096 HWY 109	STURGIS	KY	42459
113	UNION	10000556	GATEWAY ONE STOP (FORMERLY R & C STORE)	10300 HWY 56 W	STURGIS	KY	42459
113	UNION	20150662	COUNTY PLAZA	10355 ST RT 56 W	STURGIS	KY	42459

County Name TRIGG

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
35483	WEST CADIZ BP	01/13/1995		UST (EXEMPT)	CLOSED	CADIZ	36.865	-87.83528	STATE SUPERFUND

Count of sites in TRIGG County 10

County Name TRIMBLE

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
20142	BEDFORD RELEASE	09/13/1996	HAZARDOUS SUBSTANCE	GAS PIPELINES	CLOSED	BEDFORD	38.5925	-85.31778	PETROLEUM
42905	KENTUCKY TRANSPORTATION CABINET	12/30/1996		OPEN DUMPING	CLOSED	BEDFORD	38.5925	-85.31778	STATE SUPERFUND
17857	LOUISVILLE GAS & ELECTRIC CO. - TRIMBLE COUNTY GEN	03/01/2001			ACTIVE	Wises Landing			STATE SUPERFUND
36353	MILTON-MADISON BRIDGE	04/12/1995	HAZARDOUS SUBSTANCE	LEAD ABATEMENT	CLOSED	BEDFORD			STATE SUPERFUND
57644	MINTON PROPERTY	06/28/2001	PETROLEUM	UST (EXEMPT)	CLOSED	MILTON	38.700278	-85.37222	PETROLEUM

Count of sites in TRIMBLE County 5

County Name UNION

Incident Id	Name	Date Received	Spill Class	Incident Type	Status	Nearest Community	Latitude	Longitude	Section
57197	CAMP BRECKINRIDGE	06/19/2001		OTHER	ACTIVE	MORGANFIELD	37.66163	-87.85656	FEDERAL SUPERFUND
54695	HAGAN FARM	03/01/2002	PETROLEUM	FACILITY SPILL	ACTIVE	HITESVILLE	37.751111	-87.80789	PETROLEUM
34298	HART GAS & OIL	08/25/1994	PETROLEUM	AST (ABOVE GROUND STORAGE TANK)	CLOSED	MORGANFIELD	37.6691	-87.9277	PETROLEUM
17860	ISLAND CREEK COAL CO.	03/01/2001			ACTIVE	Morganfield			STATE SUPERFUND
17858	ISLAND CREEK COAL CO. - OHIO #11	03/01/2001			ACTIVE	Uniontown			STATE SUPERFUND
43899	KURTZ PROPERTY	03/14/1997	PETROLEUM	UST (EXEMPT)	ACTIVE	MORGANFIELD	37.68333	-87.91667	PETROLEUM
37042	MERCER PROPERTY	06/19/1995		UST (EXEMPT)	CLOSED	SULLIVAN	37.4975	-87.94528	PETROLEUM
45372	MORGANFIELD INDUSTRIAL PARK, TRACTS 1 AND 2	07/29/1997	OTHER	OTHER	CLOSED	MORGANFIELD	37.69236	-87.85043	FEDERAL SUPERFUND
17915	PYRO MINING CO.	03/02/2001			ACTIVE	Sturgis			STATE SUPERFUND
40038	ROUTE 871 WASTE	04/04/1996		ABANDONED DRUMS	CLOSED	MORGANFIELD	37.68333	-87.91667	STATE SUPERFUND
39709	SHELLER GLOBE	03/18/1996		FACILITY SPILL	CLOSED	MORGANFIELD	37.68333	-87.91667	STATE SUPERFUND
64000	STURGIS AIRPORT INDUSTRIAL PARK	11/26/2001		OTHER	ACTIVE	STURGIS	37.54667	-87.98389	FEDERAL SUPERFUND
17916	SUN OIL CO. - CAMP BRECKINRIDGE	03/02/2001			ACTIVE	Morganfield			STATE SUPERFUND
17917	SUN OIL CO. - CP BRECKINRIDGE OFF. WAREHOUSE	03/02/2001			ACTIVE	Morganfield			STATE SUPERFUND
42147	TROVER CLINIC PROPERTY	10/05/1996	POLLUTANT/CONTAMINANT	OIL/BRINE	ACTIVE	MORGANFIELD	37.66952	-87.9304	PETROLEUM
48278	UNION LOST DRUM	04/23/1998		ABANDONED DRUMS	CLOSED	MORGANFIELD	37.68333	-87.91667	STATE SUPERFUND
105693	UNITED COMMUNITY BANK (FORMER NORTH MAIN STREET DX)	08/22/2002	PETROLEUM	UST (EXEMPT)	CLOSED	STURGIS	37.54667	-87.98389	PETROLEUM
43255	UNITED TECHNOLOGIES AUTOMOTIVE	01/24/1997		FACILITY SPILL	CLOSED	MORGANFIELD	37.68333	-87.91667	STATE SUPERFUND
17862	WAVERLY DUMP (OLD)	03/01/2001			ACTIVE	Waverly			STATE SUPERFUND
14423	WAVERLY DUMP, CITY OF	12/15/2000	OTHER	LANDFILL	ACTIVE	Waverly	37.71111	-87.81722	STATE SUPERFUND

Count of sites in UNION County 20

HENRY C. LIST
SECRETARY



PAUL E. PATTON
GOVERNOR

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET

DEPARTMENT FOR NATURAL RESOURCES

DIVISION OF FORESTRY

LEAH W. MACSWORDS, DIRECTOR

627 COMANCHE TRAIL

FRANKFORT, KENTUCKY 40601

December 4, 2003

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

Dear Ms. Coffey:

Re: Planning Study, Union County
U.S. 60, From Sturgis to Morganfield
Item No. 02-8102.00

2003 DEC -5 P 3:29
DIV OF PLANNING

We found no potential situation which would adversely affect any unique or high quality woodlands along this route. Although we observed no unusually large "specimen" trees, there are several large trees of native species that will be removed during construction. These open grown trees are rapidly disappearing from the landscape in our area, and we would hope that some effort would be made to include native tree species where possible to restore the environmental as well as aesthetic values of the new roadway.

As always, we remain concerned about the loss of agricultural land and sedimentation into the numerous road ditches and cross ditches adjacent to the existing road. We believe the potential exists for sedimentation problems because of the amount of cut and fill that will be required in portions of the route.

Sincerely,

A handwritten signature in black ink, appearing to read "Leah W. MacSwords".

Leah W. MacSwords
Director

LWM:DW:fap

c Dan Williamson



An Equal Opportunity Employer M/F/D

Printed On Recycled Paper

Sturgis Chamber Of Commerce

P.O. Box 125
Sturgis, Kentucky 42459

December 10, 2003

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

RE: Planning Study
Union County
US 60 from Sturgis to Morganfield
Item NO. 02-8102.00

Dear Ms Coffeey;

The Sturgis Chamber of Commerce is in full support of the state's original plans for a four lane US Highway 60 improvement from Sturgis to Morganfield, as well as a by-pass around Sturgis. This needed improvement is reflected in the May 10, 2000, Strategic Development Plan for the City of Sturgis. Sturgis is fortunate to have the third largest, airport in the state of Kentucky with two active 5000 foot runways. The Sturgis Airport grounds host our Sturgis Industrial Park, the 44,000 square foot Dr. John A Arnold Convention Center and Arena, horse barns, the Little Sturgis Rally, and the Union County Fair. The Little Sturgis Rally contributes millions of dollars annually to the economy of Western Kentucky.

Improvements to US 60 will only enhance our ability for industrial growth and continued tourism growth. Our small downtown in Sturgis is beginning to grow and with the improvements to US 60 will continue its economic growth and development.

Sincerely,



Paul M Hart, President
Sturgis Chamber of Commerce

City of Sturgis

524 N Adams Street
PO Box 98
Sturgis KY 42459
Phone: 270-333-2166
Fax: 270-333-2724

Thomas Cowan
Mayor

James A. Fleming
City Clerk/Treasurer

December 10, 2003

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

Dear Ms. Coffey;

The City of Sturgis, KY supports the commonwealth's original plan for a four-lane improvement of US Highway 60 from Sturgis to Morganfield, and the by-pass around Sturgis. Sturgis has several distinct landmarks, and third largest airport in Kentucky with two active 5,000 foot runways, the 44,000 square foot Dr. John A. Arnold Convention Center and Arena, and is the home of the Little Sturgis Rally and the Union County Fair.

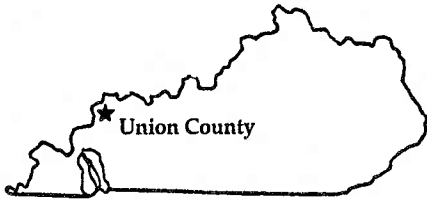
The City of Sturgis eagerly awaits the implementation of these projects since it can only improve growth and economic development.

Sincerely,



Mike Cowan, Mayor
City of Sturgis

UNION COUNTY PLANNING COMMISSION



Post Office Box 1
Morganfield, Kentucky 42437-1508
Tel. (270) 389-2093

DIV OF PLANNING

2003 DEC 15 A 11: 09

December 10, 2003

Ms. Annette Coffey, P.E., Director
Division of Planning
Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 406622

Re: U.S. Highway 60 Planning Study

Dear Ms. Coffey:

Please be advised that the Union County Planning Commission will discuss the details of a proposed four lane U.S. Highway 60 improvement from the Morganfield Bypass to the City of Sturgis at their meeting on Monday, December 15, 2003 in conjunction with the Transportation Element of the Union County Comprehensive Plan and County zoning in the near future. The Comprehensive Plan supports the development of a four-lane thoroughfare in Union County to reduce access and traffic congestion on heavily traveled roads and enhance our economic development potential.

The Planning Commission has expressed past support for four-lane bypasses on U.S. Highway 60 at Morganfield and Waverly in conjunction with a four-lane U.S. 60 improvement from Henderson. The four-lane improvement from Morganfield to Sturgis would continue that thoroughfare development in accordance with the original plan for widening U.S. 60. We support a more efficiently functioning U.S. 60 linking Union County to adjoining counties. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Bruce Danhauer".

Bruce Danhauer, Chairperson
Union County Planning Commission

Pc: Honorable Larry Joe Jenkins, County Judge/Executive



DIV OF PLANNING

2003 DEC 17 A 8: 38

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

December 12, 2003

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

Re: Item No. 02-8102.00

Dear Ms. Coffey:

This is in response to your letter of October 24, 2003 requesting our agency's input and comments on a planning study to determine the need and potential impacts of a proposed highway project. The planning study in Union County will evaluate US 60, from Sturgis to Morganfield. 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



United States Department of the Interior

FISH AND WILDLIFE SERVICE

3761 GEORGETOWN ROAD
FRANKFORT, KY 40601

December 12, 2003

Ms. Annette Coffey
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, Kentucky 40601

Subject: FWS #04-0287; US 60 Planning Study, Union County
KTC Item No. 02-8102.00

DIV OF PLANNING
2003 DEC 19 A 10: 32

Dear Ms. Coffey:

Thank you for your correspondence of October 24, 2003, regarding the proposed widening and/or relocation reconstruction of US 60 in Union County from KY 109 in Sturgis to KY 56 in Morganfield, as shown on the attachments to your correspondence. Fish and Wildlife Service (Service) personnel have reviewed the information submitted, and we offer the following comments.

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.

Upon review of the proposed projects, we find that the information provided is insufficient to determine if the proposed actions will require U.S. Army Corps of Engineers' permits. Since permit applications could more thoroughly reveal the extent of construction activities affecting aquatic resources, we will provide additional comments during the 404 review process should the project necessitate Corps' permits. However, we would likely have no objection to the issuance of permits if any necessary stream channel work is held to a minimum and Best Management Practices are utilized and enforced, effectively controlling erosion, sedimentation, and other potential hazards. The following conditions are specifically recommended:

1. Erosion and sediment control measures, including but not limited to the following, should be implemented on all vegetatively denuded areas:
 - a. Preventive planning: A well-developed erosion control plan which entails a preliminary investigation, detailed contract plans and specifications, and final erosion and sediment control contingency measures should be formulated and made a part of the contract.
 - b. Diversion channels: Channels should be constructed around the construction site to keep the work site free of flow-through water.
 - c. Silt barriers: Appropriate use should be made of silt fences, hay bale and brush barriers, and silt basins in areas susceptible to erosion.
 - d. Temporary seeding and mulching: All cuts and fill slopes, including those in waste sites and borrow pits, should be seeded as soon as possible.
 - e. Limitation of in-stream activities: In-stream activities, including temporary fills and equipment crossings, should be limited to those absolutely necessary.
2. Channel excavations required for pier placement should be restricted to the minimum necessary for that purpose. Overflow channel excavations should be confined to one side of the channel, leaving the opposite bank and its riparian vegetation intact.
3. All fill should be stabilized immediately upon placement.
4. Streambanks should be stabilized with riprap or other accepted bioengineering technique(s).
5. Existing transportation corridors should be used in lieu of temporary crossings where possible.
6. Good water quality should be maintained during construction.

Efficient management practices can minimize adverse impacts associated with construction. It is important that these and other measures be monitored and stringently enforced. This will aid in preserving the quality of the natural environment.

According to our records, summer roost habitat for the endangered Indiana bat (*Myotis sodalis*) may exist within the proposed project site. 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 (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. Our belief that potentially suitable habitat may be present, and possibly occupied by this species, is based on information provided in your correspondence, that fact that the project site and surrounding area may contain forested habitats that are within the natural ranges of these species, and our knowledge of the life history characteristics of this species.

The Indiana bat uses 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.

Because we have concerns relating to this 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.

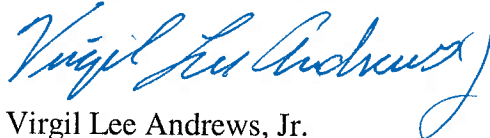
1. Based on the presence of numerous caves, rockshelters, and underground mines in Kentucky, we believe that it is reasonable to assume that other caves, rockshelters, and/or abandoned underground mines may occur within the project area, and, if they occur, they could provide winter habitat for Indiana bats. Therefore, we recommend that the KTC 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 you 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

We request your written acceptance of these recommendations as project conditions. However, 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 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 written notification if either or both of these are applicable to the proposed project area.

Thank you for the opportunity to comment on this proposed action. If you have any questions regarding the information that we have provided, please contact Mindi Brady at (502) 695-0468 (ext. 229).

Sincerely,

A handwritten signature in blue ink that reads "Virgil Lee Andrews, Jr." in a cursive script.

Virgil Lee Andrews, Jr.
Field Supervisor

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314)539-3900, x2
Fax: (314)539-3755
Email:

16591.1/Cypress Creek,
Hopgood Ditch, Halls
Branch
March 24, 2004

Ms. Annette Coffey, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
State Office Building
Frankfort, KY 40622

Subj: PLANNING STUDY, UNION COUNTY, U.S. 60, STURGIS TO MORGANFIELD,
ITEM NO. 02-8102.00

Dear Ms. Coffey:

We have reviewed the information provided in your letter of October 24, 2003 and determined that the subject project will not involve bridges over navigable waters of the United States, therefore a Coast Guard bridge permit is not required for this project.

We appreciate the opportunity to comment on the project.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Wiebusch".

ROGER K. WIEBUSCH
Bridge Administrator
By direction of the District Commander

APPENDIX E
ENVIRONMENTAL OVERVIEW



Architecture

Engineering

Construction

October 23, 2003

Mr. Daryl Greer
Kentucky Transportation Cabinet
Division of Planning
125 Holmes Street
Frankfort, Kentucky 40622

**Environmental Overview/Footprint
Union County, US 60**

Dear Mr. Greer:

Enclosed please find ten copies of our final version of the environmental overview and footprint for the above captioned project, plus one set of exhibits detailing archaeological site information. An electronic version of the overview and exhibits is provided on the enclosed CD-ROM in PDF format.

If you have any additional questions, please feel free to contact me.

Sincerely,

David E. Smith, PE
Vice President

The Glassworks District
815 West Market Street
Suite 300
Louisville, Kentucky
40202
Ph. 502-585-2222
Fx. 502-581-0406
www.qk4.com

Enclosures

US 60, UNION COUNTY

From Sturgis (mile point 5.67) to Morganfield (mile point 16.34)

ITEM NUMBER 02-8102.00

ENVIRONMENTAL OVERVIEW

Prepared for:

**KENTUCKY TRANSPORTATION CABINET
DIVISION OF PLANNING**

October 2003

Prepared by:



ENVIRONMENTAL OVERVIEW

US 60

From Sturgis (mile point 5.67) to Morganfield (mile point 16.34)
UNION COUNTY, KENTUCKY

Item No.: 02-8102.00

Prepared for:

KENTUCKY TRANSPORTATION CABINET
DIVISION OF PLANNING

Prepared by:

William C. Crawford
David E. Smith



October 2003

ENVIRONMENTAL OVERVIEW

This environmental overview identifies US 60 project study area issues likely to require consideration during the US 60 roadway improvement planning study. The US 60 study area is located in Union County, in western Kentucky, is about 10.7 miles long, and ranges in width from 0.8 to 1.9 miles, as indicated by the highlighted area on Exhibits 1 and 2. The study area is larger than the project termini, which extend from mile point 5.67 (KY 109, Main Street) in Sturgis to mile point 16.34 (KY 56, West and East Main Street) in Morganfield. US 60 is a major north-south roadway for Union County. The existing US 60 is a two-lane, undivided highway, traversing flat to rolling terrain with a posted speed limit of 25–35 mph in the cities, and 55-mph the rural area.

This environmental overview examines considerations for improving the US 60 highway. It summarizes the results of several environmental investigations, based primarily upon literature, archival, known database, and map research. Limited amounts of fieldwork were conducted, consisting mainly of windshield surveys to confirm identified sites, and visually identify previously unknown sites. Additional information was collected through correspondence with other state and federal agencies. This environmental overview does not provide a detailed analysis and assessment of any potential impacts. Refer to Exhibits 1 and 2, and the color photographs of existing US 60 typical sections, for the following discussions concerning the study area.

Environmental Footprint

Topography and Geology. Elevation in the study area ranges from 340 to 560 feet above mean sea level. The study area is within the Green River-Southern Wabash Lowlands Ecoregion of the Interior River Valleys and Hills Ecoregion. Historically, it was covered by wetlands and bottomland forests, with upland forests on hills, but is now mostly cropland, and underlain by carboniferous sedimentary rock. The physiography consists of unglaciated, broad, nearly level bottomlands and low hills, drained by meandering, low gradient streams and rivers. Stream substrates are soft, and floodplains wide. The soils are underlain by rocks of the Pennsylvania age, comprised largely of sandstone, siltstone, and shale. Deep and surface coal mining is common, as are oil and gas wells.

Culturally Sensitive Locations. This preliminary study identified the following culturally sensitive locations in the study area: 5 cemeteries, numerous churches, the Methodist Hospital, Union County Vocational School, Union County High School, and the Union County Middle School. The only public park or recreational area within the study area is the Union County Fairgrounds, located east of Sturgis and just off of US 60 at the southeastern edge of the study area.

These culturally sensitive locations vary from having local community significance, to possible regional significance with state and/or federal jurisdictional responsibilities. Any future roadway improvements proposed should thoroughly consider potential impacts to these resources.

Historic, Archaeological, and Cultural Resources. The study area contains no National Register of Historic Places (NRHP) listings for historic sites. However, a windshield survey of the study area located 17 historic sites, of which 5 sites were surveyed for overview documentation only (*i.e.*, no apparent NRHP potential; identified on the exhibits as "Survey"). The remaining sites, consisting of 11 individual building sites, and 1 historic district in Sturgis, have the potential to meet NRHP criteria, and are

identified on the exhibits with the suffix “NRP” (National Register Potential) and in the list below. None of these sites had been previously surveyed.

<u>Site</u>	<u>Description</u>	<u>Site</u>	<u>Description</u>
A	Captain James W. Finnie House	J	Blueberry Hill Inn
B	Employees Mutual Benefit Association (EMBA) Building	K	School
C	Classic Revival Building/Residence	L	Dwelling and Log Crib Barn
D	Sturgis Commercial & Residential District	M	Salem Church Cemetery
G	Cypress Creek Christian Church Cemetery	N	Mill
I	Central Passage House	O	Bungalow

The individual NRP sites include 5 dwellings (Sites A, C, I, L, O), 4 buildings (Sites B, J, K, N), and 2 cemeteries (Sites G, M). The sites are distributed along US 60, and most are in relative close proximity to the existing US 60 roadway. The NRP historic district (Site D) consists of commercial and residential buildings along sections of US 60/Main Street and Adams Street in Sturgis. No buildings were inspected in detail. This preliminary assessment was based primarily on Criterion C, architecture. NRHP eligibility determination will require additional research, physical examination, evaluation, and consultation with the SHPO. *Kentucky’s Historic Farms* publication listed two historic farms (McCoughtry-Hoheimer Farm, Morganfield, and Land-O-Nan Farms, Sturgis) as potentially in the vicinity of the study area. The farms’ exact locations and property boundaries could not be determined without further research; therefore their relationship and proximity to the study area is unknown.

The archaeological overview identified five previous professional investigations conducted in or partially overlapping the study area, and four archaeological sites in or adjacent to the study area. The archaeological overview revealed the study area to be largely uninvestigated, with virtually no information on 3 of the 4 known archaeological sites. The NRHP eligibility of the 3 sites was not assessed, and the available information states they are indeterminate sites. Therefore, additional archaeological investigation will be needed for any site impacted by roadway improvements. The fourth site was considered sparse and small in size, with no further archaeological investigation recommended, and not eligible for NRHP listing. Consequently, the archaeological overview considered the study area to be full of archaeological potential. The potential for finding prehistoric sites appears low given the amount of ground disturbance by modern development, yet it cannot be ruled out and the potential appears to be greater on the higher ground areas. The area in and surrounding the study area contains potential historic buildings in Morganfield and Sturgis, potential historic structures scattered throughout the study area, old roadways, historic settlement centers, abandoned rail lines, and 5 cemeteries. Historic mapping review indicated approximately 72 potential archaeological resource sites. Based upon the background literature review, the potential for encountering prehistoric and historic archaeological sites within the study area is considered high. If improvements to US 60 are to be implemented, requiring an environmental document, then the unsurveyed study area portions should be subjected to a Phase I level archaeological investigation (*i.e.*, shovel test probe excavations in accessible areas), and a historic structure survey.

Aquatic Resources. The Trade Water River drains the region, with a reported 64 surface streams located in the study area, including Cypress Creek and Eagle Creek, and

numerous unnamed tributaries. The production of coal, gas, and oil, the conversion of forests into cropland, and the channelization of most streams have resulted in water quality degradation. If US 60 improvements are implemented, then all streams in the study area may be impacted by sedimentation resulting from roadway construction improvements. Soil from exposed and erodible surfaces may directly enter surface water, temporarily increasing turbidity levels. Surface and ground water may also experience temporary increases in specific conductance, suspended solids, and nutrients.

Kentucky Division of Water (KDOW) will require a non-point source pollution control plan, and an erosion control plan. Application of Kentucky Transportation Cabinet's (KYTC) *Specific Specifications for Road and Bridge Construction* and the Federal Highway Administration's (FHWA) *Best Management Practices for Erosion and Sediment Control* can be used to alleviate most sedimentation problems.

No nationally listed wild and scenic rivers are located within the study area. No other rivers or streams are listed on the Kentucky Wild River System.

No outstanding resource waters, municipal/public surface water intakes, or recorded water wells were identified in the study area. The KDOW recently implemented a policy change and now regards the location of municipal water supplies and groundwater protection areas as classified information. Therefore, only a limited amount of information is available, and originates from other public information sources.

A limited amount of floodplain information is available for the study area. The Federal Emergency Management Agency (FEMA) does not maintain floodplain maps for all of Union County, but only individual communities/cities in the county. The Flood Hazard Boundary Maps for Sturgis and Morganfield (dated September 19 and December 19, 1975, respectively) were converted to Flood Insurance Rate Maps (FIRM) on September 1, 1986, by Letter of Map Change (LOMC). New maps were not published, and the existing maps are subject to change "after a more detailed study." According to the maps, the study area north of Sturgis and Cypress Creek does not cross any special flood hazard areas (*i.e.*, Zone A), and is located entirely within Zone X (areas outside 500-year floodplain). On the east side of Sturgis, along the west bank of Cypress Creek, the study area includes and the existing US 60 crosses the 100-year floodplain of Cypress Creek.

Wetlands and Ponds. National Wetland Inventory (NWI) map reconnaissance revealed 109 wetlands either within or crossing the study area boundary, with the highest concentration in the southern portion along Cypress Creek. The wetlands are identified on the exhibits as "WET #." Palustrine, emergent wetlands (*i.e.*, dominated by herbaceous vegetation) accounted for 22 sites, ranging in size from about 0.1 acre to 106 acres. Palustrine, forested, broad-leaved, deciduous wetlands numbered 13 sites, ranging in size from about 0.1 acre to 16.2 acres. Palustrine, shrub/scrub wetlands numbered 1 site, about 2.0 acres. Palustrine, aquatic wetlands (*i.e.*, rooted and floating plants) numbered 1 site, about 5.4 acres. One site was listed as rock bottom wetland, approximately 0.1 acre, and is probably a ditch. Pondered water habitats with unconsolidated bottoms accounted for 71 sites, most of which are probably created ponds or lakes. In addition to the 71 NWI probable ponds, another 15 ponds appear on the topographical maps, for a total of 86 ponds. Ponds may be considered jurisdictional if a jurisdictional stream flows through them. The pondered water habitats range in area from 0.1 acre to 16.7 acres, and include livestock watering ponds, recreational lakes, and sewage disposal ponds. More intensive field surveys would be required to confirm and delineate NWI map wetlands, as well as identify any wetlands not appearing on the map.

A specific roadway design is needed before the type of United States Army Corps of Engineers (USACE) permit required (*i.e.*, Nationwide or Individual) can be determined. The nationwide permit only authorizes activities with minimal adverse effects on the aquatic environment. The project would likely require filling in the one-hundred-year floodplain of Cypress and Eagle Creeks, as well as other types of stream work. Therefore, the KDOW will probably require a Kentucky Pollutant Discharge Elimination System (KPDES) General Stormwater Permit, a Floodplain Construction Permit if filling within the one-hundred-year floodplain, and a Water Quality Certification.

Terrestrial Resources. The plant and animal life is considered typical for the area. Historically, the area was covered with wetlands and bottomland forests, with upland forests on the hills. Most of the forests have been converted to cropland, except in hilly areas. The once common wetlands and oxbow lakes have been drained or filled. Few riparian areas are forested. Potential natural vegetation consists of oak-hickory forests on uplands, and bottomland forests on lowlands and floodplains.

Threatened and Endangered Species. Coordination with the United States Fish and Wildlife Service (USFWS) indicated the federally endangered Indiana bat (*Myotis sodalis*) and gray bat (*Myotis grisescens*) could potentially use the study area. Records from Sloughs Wildlife Management Area, located north of the study area, indicate several instances of known Indiana bat maternity colonies. It is recommended a thorough search for caves, underground mines, or rock shelters be conducted in the study area, and their potential use as winter hibernacula for Indiana bats, or summer and/or winter roosting habitat by gray bats, be assessed. If Indiana bat hibernacula are identified in the study area, or are known to occur within 10-miles of the project area, then the USFWS recommends trees only be removed between November 15 and March 31 to avoid impacting the species' "swarming" behavior.

Coordination with Kentucky Department of Fish and Wildlife Resources (KDFWR) indicated no known records of federally or state protected species in the study area.

Coordination with the Kentucky State Nature Preserves Commission (KSNPC) indicated no records of rare plants, animals, natural communities, or managed areas in the study area, with the exception the Indiana bat is known to occur in Union County.

Managed Land Areas. Managed land areas are under governmental or private regulatory control, typically to encourage environmental protection or resource procurement. No known managed land areas are located within the study area. The Sloughs Wildlife Management Area is located north of Morganfield and outside of the study area. The Higginson-Henry Wildlife Management Area is located east and outside of the study area's northern portion. Shawnee National Forest is located west, across the Ohio River. No agricultural districts would be impacted by the project.

Farmlands. The Union County Natural Resources Conservation Service (NRCS) provided the United States Department of Agriculture (USDA) published Union County Soil Survey maps. Union County as a whole has about 64 percent of its soil meeting the requirements for prime farmland, and this number increases to about 70 percent when statewide important farmlands are included. This farmland is distributed throughout the county. A visual examination indicates about 40 - 50 percent of the existing US 60 roadway crosses prime and statewide important farmland. The study area crosses four different soil associations, with the predominant soil type in the study area the Patton-Wilbur-Wakeland Association. (The other associations in order of abundance are:

Uniontown-Patton-Henshaw, Patton-Wilbur-Wakeland, and Memphis-Wellston.) Some of this prime and statewide important farmland's value has already been compromised due to residential and commercial development, and roadway construction.

Hazardous Materials Concerns. Land use in the study area is predominantly agricultural, with residential development and commercial facilities scattered throughout. Relevant data was collected from numerous sources, including federal and state databases, and a windshield survey of the area within and near the study area. The survey identified 29 possible contamination sites (see Table 1, *Possible Contamination Sites*). Most of these sites involve fuel distribution and/or vehicle/equipment maintenance facilities, and have similar potential contamination concerns (e.g., underground storage tanks (UST's), fuel spills/leaks/soil contamination, waste petroleum products, heavy metals, solvents, corrosives, tires, lacquers/paints, 55-gallon drums, miscellaneous debris piles, etc.). Other sources of potential contamination include: the county hospital (biohazards, hazardous chemicals), agricultural/farm services (pesticides, herbicides, rodenticides, fertilizers), electrical and plumbing services (construction debris piles, lead, heavy metals, PCB's), and recycling/salvage centers (waste materials requiring special handling). Additional potential contamination concerns include: pole-mounted electrical transformers (PCB's), aboveground storage tanks (AST's), waste dumping (mainly household refuse, but special waste possible), and pesticide/herbicide use on farms. Construction activities in and near these sites may require special procedures and permits.

Air Quality. Union County is located within the Evansville (Indiana) – Owensboro – Henderson (Kentucky) Interstate Air Quality Control Region. The area is designated as an Attainment Area for all transportation-related pollutants, as per the 1990 Clean Air Act Amendments, and transportation control measures would not be required for the project. The project is listed on page 210 of the *Kentucky Statewide Transportation Improvement Program (STIP), Fiscal Years 2003–2008*, approved September 2002. The project is not expected to adversely impact air quality in the region.

Traffic Noise. The study area is mixed, mostly rural in nature, with more urbanized areas at each end. Three schools, a hospital, and several churches and cemeteries are located within the study area. Otherwise, development along the existing road is sparse between the towns of Sturgis and Morganfield. If US 60 improvements are implemented, then traffic noise impacts are not anticipated for the urban areas, and residences somewhat removed from the roadway in rural areas. It is usually unreasonable to construct noise barriers for single, widely spaced residences, and the need to maintain road access would render noise barriers ineffective.

Other Concerns. The Sturgis wastewater treatment plant and sewage disposal pond is located east of Sturgis. Associated pump stations and package plants are scattered throughout the study area. An elevated water tank (500,000 gallon capacity) is located just northeast of Sturgis. Electrical substations and 2 radio transmission towers are located within the study area. The Sturgis Airport Industrial Park is located east of Sturgis, adjoining the study area. Numerous oil wells are located in and around the study area, predominantly in the north. A landfill is located in the north, at the study area's western perimeter.

Environmental Justice. The Green River Area Development District (GRADD) is preparing the environmental justice section and its related issues/concerns.

TABLE 1
Possible Contamination Sites
Union County, US 60

Site Number	Site Name or Description	Suspected Contaminant or Area of Concern
1	Former Gasoline Station (vacant CITGO gas station), Martz Auto Repair	Petroleum products, USTs, ASTs, heavy metals, semi-volatile organic compounds, possible soil contamination, auto repair activity, lubricants, waste oils, corrosives, and solvents.
2	Dunlop Tire Specialist	Waste oils, used auto tires, oils, greases, used oil filters, auto batteries, ASTs, solvents, and possible petroleum contamination.
3	Sturgis Airport Industrial Park	USTs, ASTs, petroleum products, oils, greases, solvents, lubricants, waste oils, used tires, batteries, corrosives, construction debris, propane tank sales and service, recycling center with a variety of materials requiring special handling and disposal, and a suspect variety of unidentified hazardous material storage on the interior of structures within the industrial park.
4	Former Service Station and Goodyear Tire Sales	Multiple large ASTs, USTs, possible spoil pile, suspect contaminated soils, multiple 55-gallon drums with unknown contents, used auto tires, petroleum products, and possibly a variety of other hazardous materials within inaccessible structures on site.
5	Whitehead Electric Company, Inc.	Discarded construction debris (material storage), construction equipment stockpiles, 55-gallon drums, ASTs, multiple used auto tires, lead and copper materials, oils, greases, transformers, possible PCBs, petroleum products, and possible unidentified hazardous materials within structures on site.
6	Former Commercial Property (Collins Muffler Service)	Possible former gas station and possible USTs, construction debris and building material stockpiles, and possibly a variety of unidentified hazardous material storage within structure on site.
7	CC Ford – Mercury Dealer Parts, Service & Sales	Auto repair facility with ASTs, waste oils, tires, batteries, oils, greases, petroleum products, solvents, corrosives, and a variety of other materials requiring special handling and disposal.
8	Holemens Garage Auto Repair Facility (possible former gas station)	Possible USTs, ASTs, petroleum products, oils, greases, solvents, lubricants, waste oils, used tires, batteries, corrosives, construction debris and possible spoil pile, and suspected unidentified hazardous material storage on the interior of subject structures.
9	True Value Hardware/Sturgis Auto Parts (possible former gas station)	Possible USTs, ASTs, petroleum product storage, and possible soil contamination.
10	Vacant Commercial Property (former auto repair facility & possible former gas station)	Possible USTs, ASTs, petroleum product storage and possible soil contamination, and suspected unidentified hazardous material storage on the interior of subject structures.
11	Antique Craft Mall (possible former gas station)	Possible USTs and ASTs, possible soil contamination, and suspected unidentified material storage on the interior of subject structure.
12	Hucks Food and Fuel	Petroleum products, USTs, ASTs, heavy metals, semi-volatile organic compounds, and possible soil contamination.
13	L&B Motors Inc. Auto Sales and Service	Auto repair facility with ASTs, waste oils, tires, batteries, oils, greases, petroleum products, solvents, corrosives, and a variety of other materials requiring special handling and disposal.

Table 1, cont.

Site Number	Site Name or Description	Suspected Contaminant or Area of Concern
14	Auto Repair, Tire & Aluminum Recycling Operations	Waste oils, suspect PCBs, used auto tire stockpile, oils, greases, used oil filters, auto batteries, ASTs, solvents, corrosives, waste materials requiring special handling and disposal, possible USTs and related contamination.
15	Quick Stop & Deli	Petroleum products, USTs, ASTs, heavy metals, semi-volatile organic compounds, and possible soil contamination.
16	Residence (former gas station)	Possible USTs (no evidence of existing tanks discovered on site).
17	Electric Substation	Electromagnetic pollution, oils, greases, and possible PCBs.
18	Crop Production Services	Pesticides, herbicides, rodenticides, fertilizers (anhydrous ammonia), three ASTs with underground piping to dispensers (gas & diesel fuel), mobile ammonia tanks, large used tire stockpile, and other unidentified chemicals stored within the existing structures on site.
19	Methodist Hospital	USTs, ASTs, microbiological and other medical biohazard waste streams.
20	Union County Vocational School & Union County High School	ASTs and USTs
21	Union County Middle School	ASTs and USTs
22	Electric Substation	Electromagnetic pollution, oils, greases, and possible PCBs
23	ATR Electrical Company	Construction debris with electrical waste materials, truck repair operations, waste oils, suspect PCBs, used tire stockpile, oils, greases, used oil filters, auto batteries, ASTs, solvents, corrosives, waste materials requiring special handling and disposal, possible soil contamination, and possibly a variety of hazardous material storage on interior of facility on site.
24	Bluegrass Plumbing & Electric Supply	Truck repair operations, waste oils, suspect PCBs, used tire stockpile, oils, greases, used oil filters, auto batteries, ASTs, solvents, corrosives, construction equipment, and construction debris.
25	Alans Body Shop	Lacquers, paints, varnishes, corrosives, combustibles, solvents, oils, greases, and possibly other hazardous material storage on the interior of the structure on site.
26	Plymouth Chrysler, Jeep, Dodge Auto & Truck Sales and Service	Salvage auto storage with possible leaking fluids and coupled contamination, 55-gallon drums with unknown contents, oil well drilling operations, auto and farm equipment repair services, ASTs, waste oils, tires, batteries, oils, greases, petroleum products, solvents, corrosives, possible USTs, suspect heavy metal and semi-volatile organic compounds, and a variety of other materials requiring special handling and disposal.
27	John Deere Sales and Service	ASTs, possible USTs, waste oils, tires, batteries, oils, greases, petroleum products, solvents, corrosives, possible heavy metal & semi-volatile organic compound contamination in soils, and possibly a variety of other materials requiring special handling and disposal.
28	Firestone Tire Sales and Service	Waste oils, used auto tires, oils, greases, used oil filters, auto batteries, ASTs, solvents, oil drilling operations, and possible petroleum contamination.
29	Agro Distribution, Cropland Genetics Distribution Services	Chemical fertilizers, pesticides, herbicides, and possibly a variety of hazardous material storage on interior of facility on site.



US 60 in Sturgis

**US 60, Existing
Typical Sections**



US 60 typical with residential and commercial property



Union County High School and Vocational School



Large electric substation



Sturgis Industrial Park



Site 9, possible former gas station, and typical US 60 intersection



Site 4, former gas station and tire sales (closed)

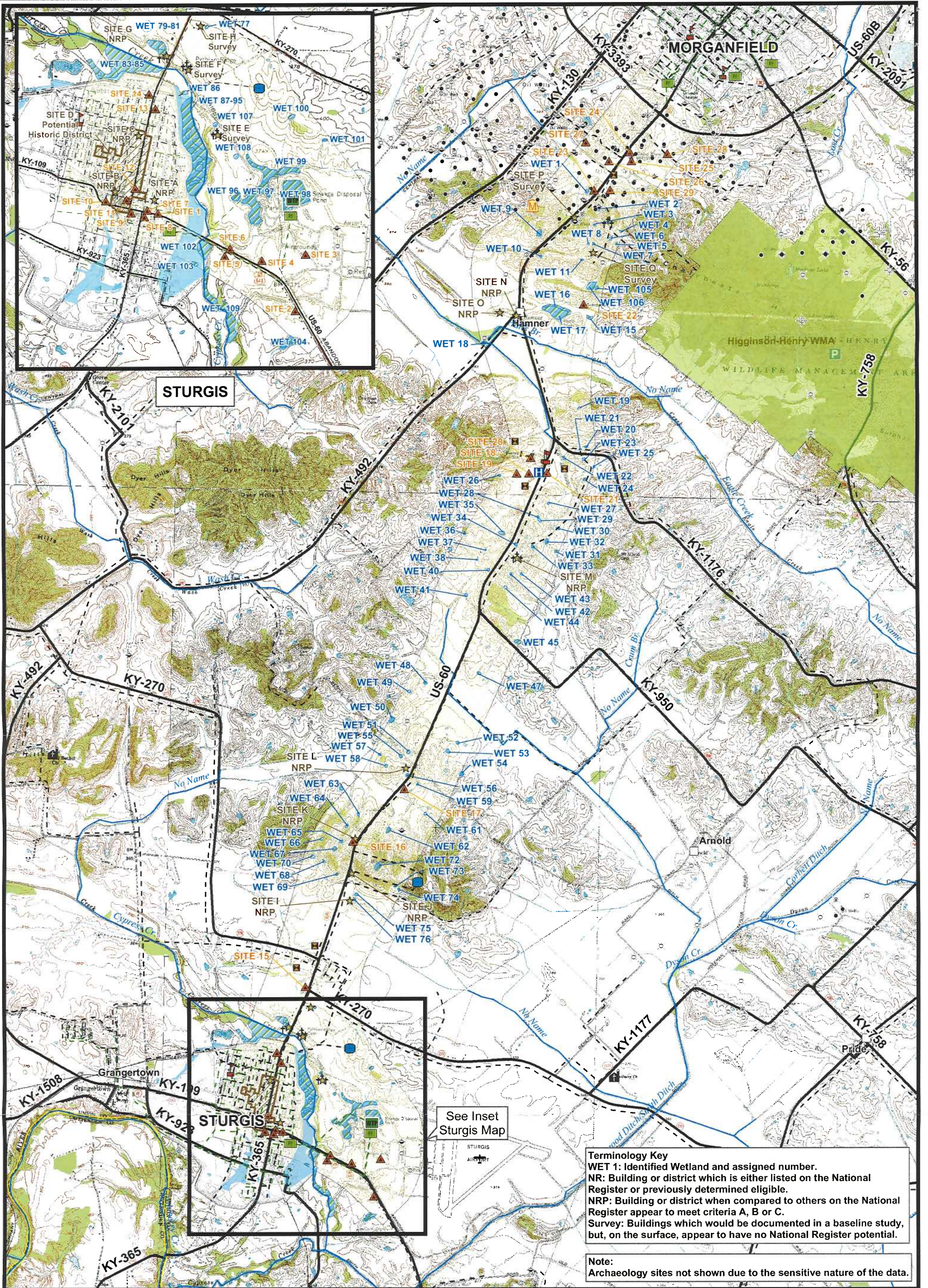
US 60, Possible Contamination Site Examples



Above ground storage tanks near Site 4

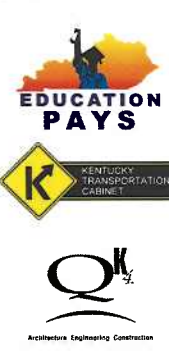


Site 18, agricultural product dispensers



Terminology Key
 WET 1: Identified Wetland and assigned number.
 NR: Building or district which is either listed on the National Register or previously determined eligible.
 NRP: Building or district when compared to others on the National Register appear to meet criteria A, B or C.
 Survey: Buildings which would be documented in a baseline study, but, on the surface, appear to have no National Register potential.

Note:
 Archaeology sites not shown due to the sensitive nature of the data.



- Airport
- Church
- Park
- Populated Place
- Cemetery
- School
- Hospital
- Potential Historic Location
- Potential Historic District
- HAZMAT Site
- Landfill
- Oil Well
- Gas Well
- Combined Oil and Gas
- Newly Permitted Well
- Dry and Abandoned Well
- Miscellaneous Well
- Waterline
- Water Well
- Public Water Source
- Water Tank
- Water Treatment Plant
- Sewers
- Package Plant
- Wastewater Pump Station
- Wastewater Treatment Plant
- Stream
- Wetlands
- 100 Year Floodplain
- State Park
- Conservation/Natural Area
- PROJECT STUDY AREA

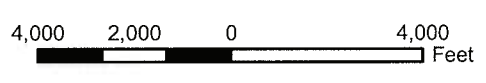
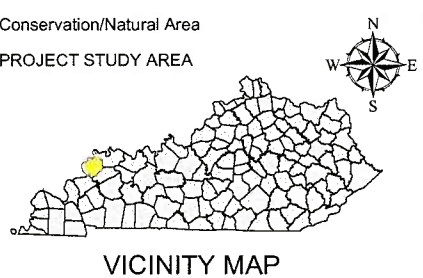
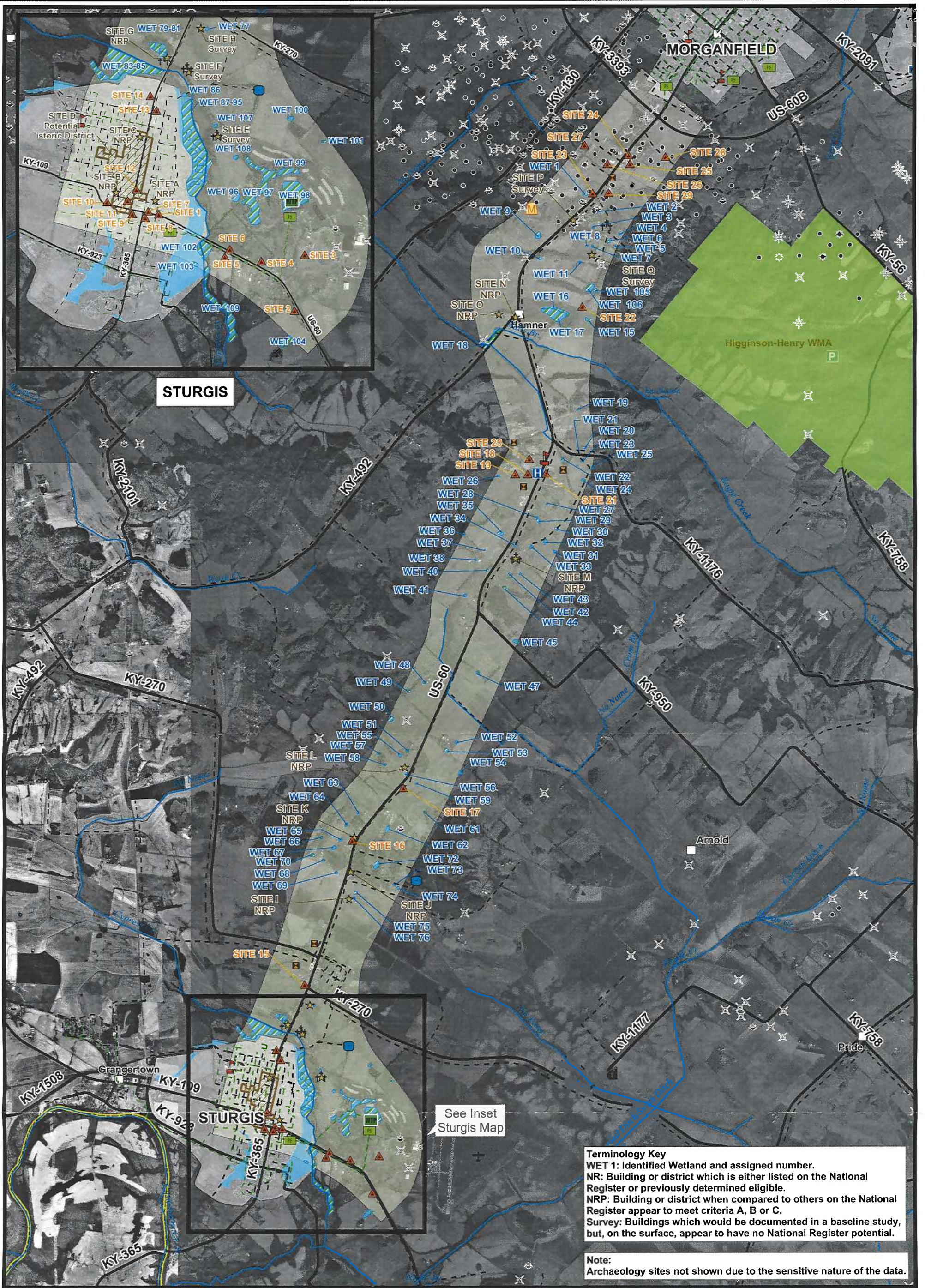


Exhibit 1 Sheet 1 of 1

**USGS Topographic
 Environmental Footprint**
 US 60
 Sturgis to Morganfield
 Union County
 KYTC Item No. 2-8102.00





STURGIS

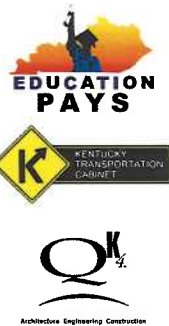
MORGANFIELD

Higginson-Henry WMA

See Inset Sturgis Map

Terminology Key
 WET 1: Identified Wetland and assigned number.
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Note:
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- Airport
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- Park
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- Cemetery
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- Hospital
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- HAZMAT Site
- Landfill
- Oil Well
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- Water Tank
- Water Treatment Plant
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- 100 Year Floodplain
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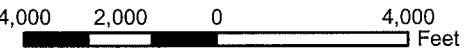
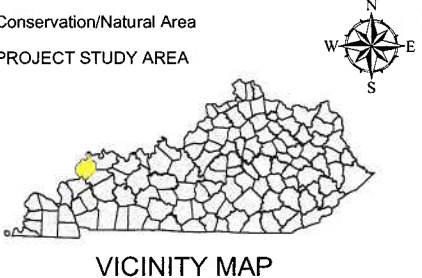


Exhibit 2 Sheet 1 of 1

**KYOGIS Orthophoto
 Environmental Footprint
 US 60
 Sturgis to Morganfield
 Union County
 KYTC Item No. 2-8102.00**



APPENDIX F
ENVIRONMENTAL JUSTICE

May 29, 2003

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

Dear Ms. Coffey:

The Green River Area Development District is pleased to provide that attached requested environmental justice and community impact information for the intermediate planning study that is currently being conducted for improvement of US 60 between Sturgis and Morganfield, Kentucky. GRADD staff utilized various sources of census data, conducted a field review and met with community leaders to assist with the gathering of the data.

A CD Rom of the compiled information is also attached for your convenience. If you have any questions or need further information, please feel free to contact me at (270) 926-4433.

Sincerely,

Gina Boaz
Regional Transportation Planner

Attachments

Gina Boaz

Environmental Justice and Community Impact Issues US Highway 60 Widening in Union County

Identification of Community leaders or other contacts who may be able to represent population groups:

- GRADD staff met with community leaders at the Sturgis Chamber of Commerce to access possible effects on the community and to identify contacts in the area.
- See Attachment 1.

Comparison of the Census tracts and block groups encompassing the project area to other nearby Census tracts and block groups, county, state, and United States percentages:

- Notable conclusions of Tracts and Blocks located between MP 5.671 and MP 15.412 on US Highway 60 in Union County:
 - Tract 9502 – Significantly above average percentage of minorities in this region. Slightly above average percentage of low-income as compared with county, state, and national averages. Elderly percentage is on par with averages, and disabled is below county and state averages, but above national averages.
 - Block 7 – The percentage of low-income, disabled, and minority individuals in this area is significantly lower than averages. The elderly percentage is comparable to averages.
 - Tract 9503 – The averages for elderly and disabled are slightly above the numbers for the county, state, and nation. The amount of low-income individuals is equitable to county state, and national averages, while the percentage of minorities is extremely low.
 - Block 1 – The number of low-income, disabled, and minority individuals in this region is below county and state averages. Elderly percentages are on par with these averages.
 - Block 3 – The percentage of elderly and disabled persons in this area is significantly higher than county, state, and national averages. The percentage of minorities is lower.
 - Block 4 – The number of low-income individuals in this block is drastically lower than averages. However, the number of elderly and disabled individuals is dramatically higher than county, state, and national averages. The number of minority individuals is slightly above averages.
- See Attachments 2, 3, and 4.

Locations of specific identified populations:

- Staff completed a field study of the project area in order to identify any segment of the population that may be affected by the proposed project.
- Few changes have occurred in the affected area since the last census.
- There is a small African-American concentration one block from the Project area in Sturgis.
- There is a Nursing Home located on US 60 within the city limits of Sturgis.
- There is a community of manufactured homes at MP 14 near Morganfield.
- Outside the city limits of Sturgis, there were no specific identified populations.

Concentrations or communities that share a common religious, cultural, ethnic, or other background:

- No concentrations were identified in the study area.

Communities or neighborhoods that exhibit a high degree of community cohesion:

- No communities were identified in the study area.

Concentrations of common employment, religious centers, and/or educational institutions:

- Union County High School, Union County Middle School, and the Paul Herron Technology Center are located along this route near Morganfield at MP 11.9.
- Union County Methodist Hospital is located along this route near Morganfield at MP 11.9.
- There are at least five churches within a one-block radius of the project area.
- Common employment areas for the county are the hospital and educational facilities.

Potential effects, both positive and negative, of the project on the affected groups:

1. Access to services, employment, or transportation.

- Potential negative effect on the two Union County Schools during construction, but positive effects after the improvement of the roadway, including a center turn lane.
- Given the rural nature of this corridor of US 60, few if any individuals could walk to work. This form of transportation, therefore, would not see any interference.
- There is no substantial negative impact anticipated regarding access to services, employment, or transportation in this zone.

2. **Displacement of persons, businesses, farms, or non-profit organizations.**
 - Loss of farm land for road frontage
 - Possible displacement of cemeteries at the entrance to Sturgis
 - The following organizations/individuals could possibly be displaced if the study area were to incorporate the city of Sturgis:
 - Senior citizens from the nursing home in Sturgis
 - A few businesses, including an insurance agency and a grocery store.
 - Either a church or a church center.
3. **Disruption of community cohesion or vitality.**
 - Displacement of a few homes, including part of the community of manufactured homes.
4. **Effects to human health and/or safety.**
 - The widening of US Highway 60 will enhance safety in the area.

Possible methods to minimize or avoid impacts on the target populations:

- Advance information of construction plans to residents, businesses, and concerned citizens of the area.
- Coordinate with Union County Schools on relocating access and/or rerouting bus traffic to schools.

Identification of Community Leaders

Community Leaders

Union County, PO Box 60, Morganfield 42437-0060

TITLE	NAME	ADDRESS	PHONE # (270)
County Judge/Executive	Larry Joe Jenkins	PO Box 60, Morganfield 42437-0060	389-1081
County Magistrates	Bobby Veatch	525 E. Main Street, Morganfield 42437	389-4423
	Jerri Floyd	124 Buckman Lane, Uniontown 42461	822-4656
	Dennis Dossett	410 Bingham Road, Sturgis 42459	333-2007
	Joe Wells	8055 SR 758, Clay 42404	333-5995
	Joe Clements	1677 SR 760, Waverly 42462	389-4202
County Attorney	Brucie Moore	230 S. Morgan, Morganfield 42437	
County Clerk	Billy Steve Peak	PO Box 119, Morganfield 42437-0119	389-1334
Sheriff	Mike Thompson	PO Box 30, Uniontown 42461-0030	389-1303
Jailer	Marty Girten	700 Helms Way, Morganfield 42437	389-0838
Coroner	Robert W. Scarberry	6786 SR 130 S., Morganfield 42437	389-2329
PVA	Ben T. Waller	596 SR 359, Morganfield 42437	389-1933
Ec. Dev. Director	Jerry Ruark	PO Box 374, Morganfield 42437-0374	389-9600
Road Eng./Supervisor	James Cooper	212 Airline Road, Morganfield 42437	389-1646
Supt. Of Schools	Dr. Gerald Novak	510 South Mart Street, Morganfield 42437	389-1694
Planning/Zoning Dir.	Paul Cassidy	130 East Main Street, Morganfield 42437	389-2093
Civil Defense Director	Vernon Martin	PO Box 60, Morganfield 42437-0060	389-3975
Circuit Judges	Tommy Chandler	PO Box 159, Providence 42450-0159	389-2991
Circuit Clerk	Sue Beaven	PO Box 59, Morganfield 42437-0059	389-2264
Commonwealth Atty.	Billy Sam Greenwell	PO Box 361, Marion 42064	965-2261
State Senator	Paul Herron/Dist: 4	700 Capital Avenue, Room 230, Frankfort 40601-3410	502/564- 8100 x-655
State Representatives	John A. Arnold/Dist: 7	PO Box 124, Sturgis 42459-0124	333-4641
Chamber of Commerce	Vincent Thomas	PO Box 66, Morganfield 42437-0066	
Sr. Citizens Ctr. Dir.	Debbie Hite	PO Box 324, Morganfield 42437-0324	333-2847
Newspaper	Union County Advocate	PO Box 370, Morganfield 42437-0370	389-1833
Radio Stations	WMSK	PO Box 369, Morganfield 42437-0369	389-1550

ATTACHMENT 1

City of Morganfield, 130 E. Main Street – PO Box 420, 42437- 0060

TITLE	NAME	ADDRESS	PHONE # (270)
Mayor	Jerry Freer	619 E. Main Street, Morganfield 42437	389-2756
City Council Members	Gary Lovell Thomas Russelburg Dorothy Shelton Michael Williamson Justin Wolfe Rick Wyatt	All are at the same address: PO Box 420 Morganfield 42437-0420	Use the same phone number for all: 389- 2525
City Administrator	David Presser	PO Box 420, Morganfield 42437-0420	389-2525
City Attorney	Thomas E. Simpson	PO Box 29, Morganfield 42437	389-2972
Metro Planning Dir. (City Planner)	Paul Cassidy	101 W. Main Street, Morganfield 42437	389-2093
Police Chief	Tom Carmon	118 E. Main Street, Morganfield 42437	389-4357
Fire Chief	Earl H. Woods	118 E. Main Street, Morganfield 42437	389-4357
Chamber of Commerce	Janet Shouse		389-1954
Supt. Of Schools	David Holland	510 S. Mart Street, Morganfield 42437	389-1694
Building Inspector	Earl H. Woods	118 E. Main Street, Morganfield 42437	389-4357
Street Dept. Supervisor	Bill Young	PO Box 420, Morganfield 42437-0420	389-2186

City of Sturgis – PO Box 98, 42459-0098

TITLE	NAME	ADDRESS	PHONE # (270)
Mayor	Mike Cowan	PO Box 98, Sturgis 42459-0098	333-2166
City Council Members	Henry Hina Tommy Holt Norma Jean Markham Jeff Paris Richard Vincent Jeff Wilson	All will go to the same address: PO Box 98 Sturgis, KY 42459-0098	All have the same phone number: 333-2166
City Clerk	James A. Fleming	PO Box 98, Sturgis 42459-0098	333-2166
City Treasurer/Finance Officer	James A. Fleming	PO Box 98, Sturgis 42459-0098	333-2166
City Attorney	Bill Siler	PO Box 98, Sturgis 42459-0098	333-2166
Police Chief	Gary Wright	PO Box 98, Sturgis 42459-0098	333-2166
Fire Chief	Norris L. Sheely	PO Box 98, Sturgis 42459-0098	333-2166
Chamber of Commerce	Paul Hart/Lisa Jones	513 N. Main St.- PO Box 125, Sturgis 42459	333-9316
Public Works Super.	Nicholas Steward	PO Box 98, Sturgis 42459-0098	333-2166
Fair/Expo/Convention Center	Rodman Meacham	Pryor Blvd	333-4107
Sturgis Airport	Ronnie Hollis	Pryor Blvd	333-4487
Newspapers	The Sturgis News	615 Adams Street, Sturgis 42459	333-5545

**Census Data for Low Income, Elderly, and
Disabled
Populations, Percentages, & Map**

ATTACHMENT 2

Nearby Areas

Tract 9501

<i>Low-Income</i>	235	12.2%
<i>Elderly</i>	236	12.2%
<i>Disabled</i>	978	50.6%

Block 1

Low-Income	88	9.9%
Elderly	141	15.7%
Disabled	463	51.6%

Block 2

Low-Income	147	14.2%
Elderly	95	9.2%
Disabled	515	49.8%

Tract 9502

Block 1

Low-Income	119	9.4%
Elderly	93	7.1%
Disabled	286	21.9%

Block 2

Low-Income	1,069	57.4%
Elderly	50	2.6%
Disabled	785	41.4%

Block 3

Low-Income	155	6.2%
Elderly	233	12.2%
Disabled	700	36.6%

Block 4

Low-Income	168	23.7%
Elderly	112	15.8%
Disabled	348	49.0%

Block 5

Low-Income	159	32.8%
Elderly	71	13.8%
Disabled	310	60.3%

ATTACHMENT 2

Block 6

Low-Income	68	6.1%
Elderly	210	18.8%
Disabled	538	48.3%

Tract 9503

Block 2

Low-Income	136	14.9%
Elderly	137	14.9%
Disabled	315	34.4%

Block 5

Low-Income	162	18.3%
Elderly	166	18.8%
Disabled	528	59.9%

Union County

<i>Low-Income</i>	<i>2,728</i>	<i>17.7%</i>
<i>Elderly</i>	<i>2,009</i>	<i>12.8%</i>
<i>Disabled</i>	<i>6,571</i>	<i>42.0%</i>

Kentucky

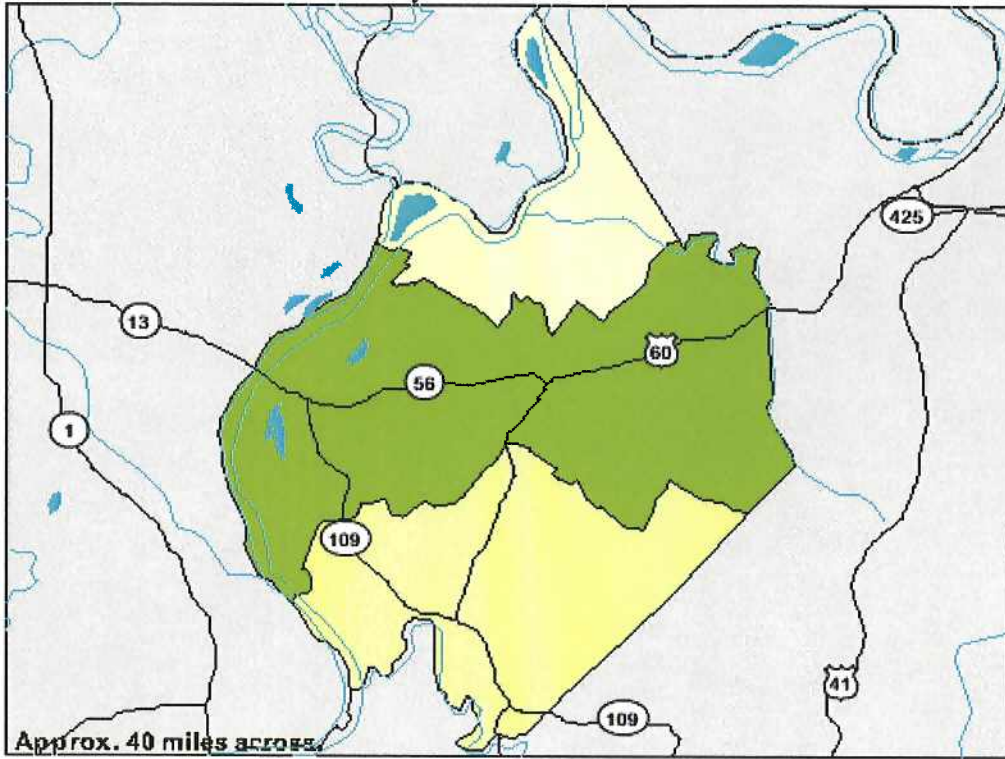
<i>Low-Income</i>	<i>621,096</i>	<i>15.8%</i>
<i>Elderly</i>	<i>503,668</i>	<i>12.5%</i>
<i>Disabled</i>	<i>1,686,789</i>	<i>41.7%</i>

United States

<i>Low-Income</i>	<i>33,899,812</i>	<i>12.4%</i>
<i>Elderly</i>	<i>34,978,972</i>	<i>12.4%</i>
<i>Disabled</i>	<i>89,142,962</i>	<i>31.7%</i>

ATTACHMENT 2

Percent of Persons Below the Poverty Level in 1999 in Union County by Census Tract
*Source: Census 2000 Summary File 3



Data Classes

Percent	
12.3 - 12.3	Light Yellow
12.9 - 12.9	Medium Yellow
21.8 - 21.8	Green

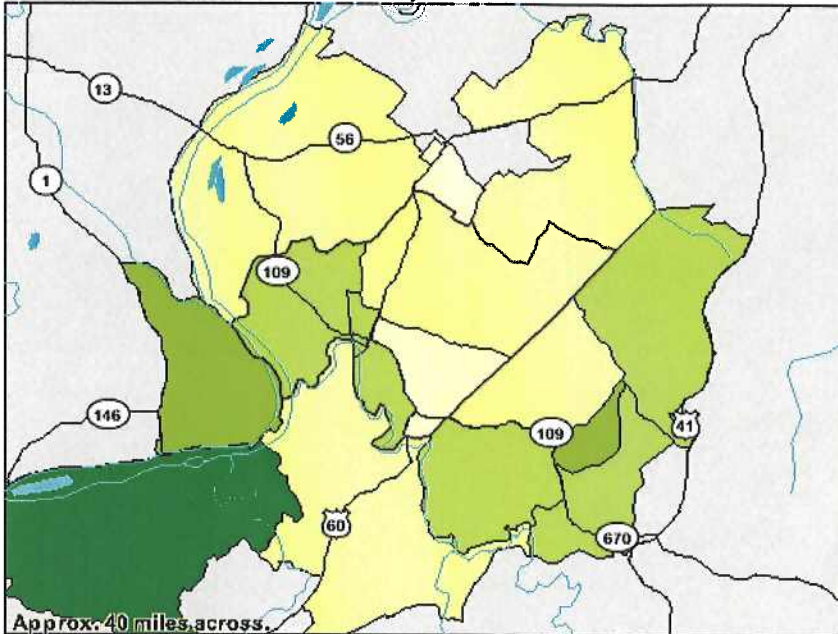
Features

- Major Road
- Stream/Waterbody
- Stream/Waterbody

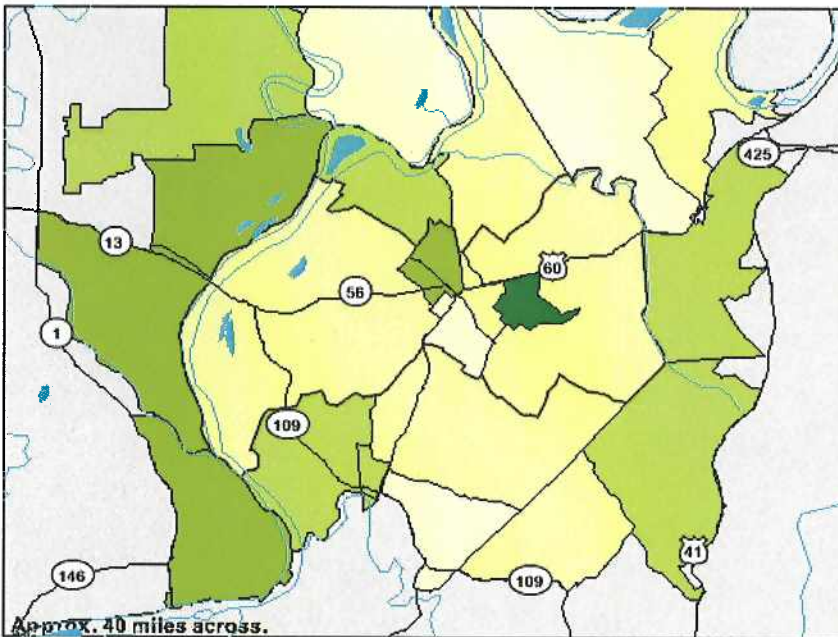
ATTACHMENT 2

Percent of Persons Below the Poverty Level in 1999 in Union County by Block Group

*Source: Census 2000 Summary File 3



Sturgis CDD – by Block Group



Morganfield CDD – by Block Group

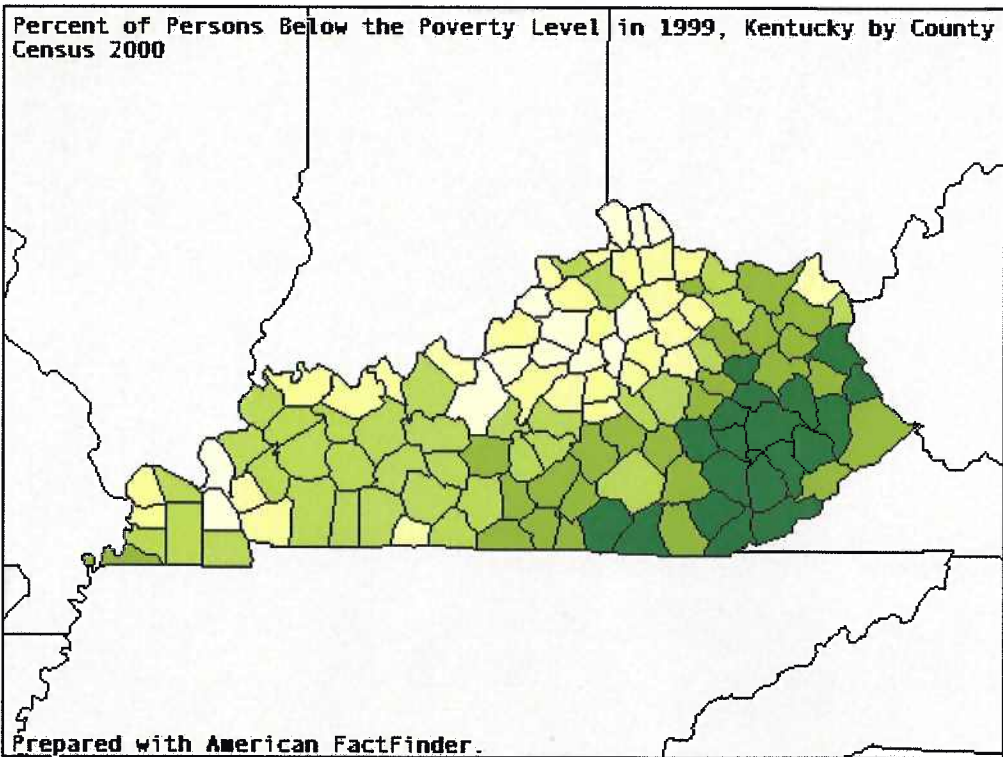
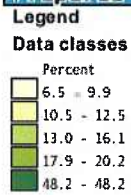
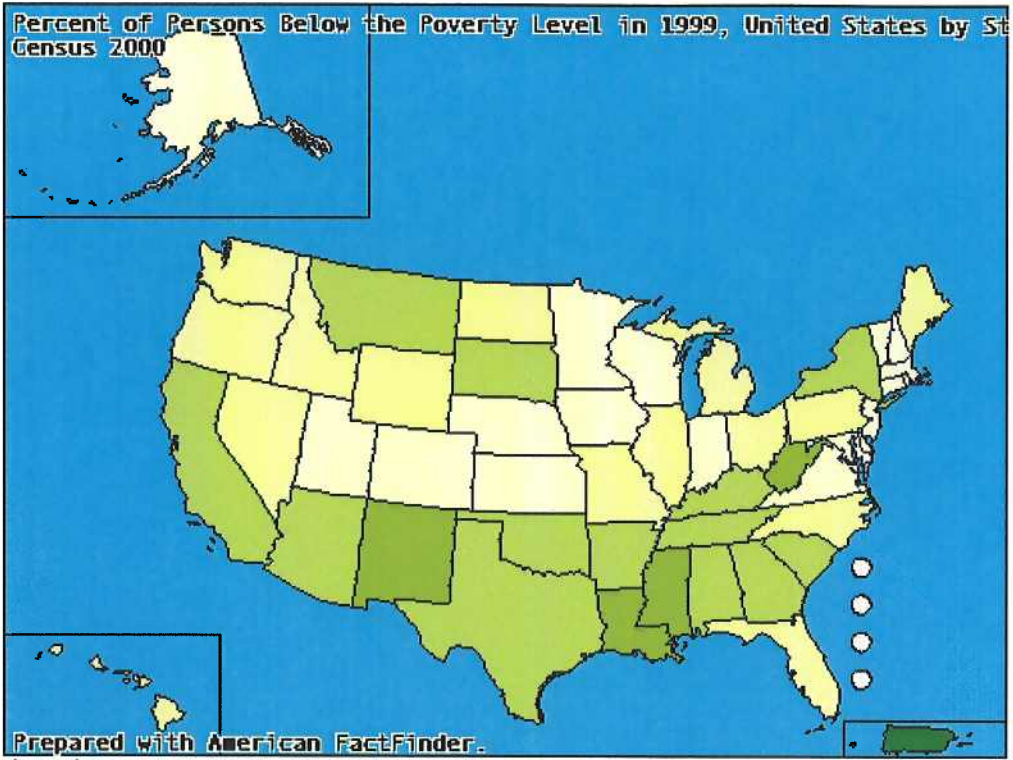
Data Classes

Percent
3.9 - 6.3
8.4 - 10.9
13.6 - 16.4
22.0 - 35.4
57.4 - 57.4

Features

- Major Road
- Stream
- Stream/Waterbody
- Stream/Waterbody

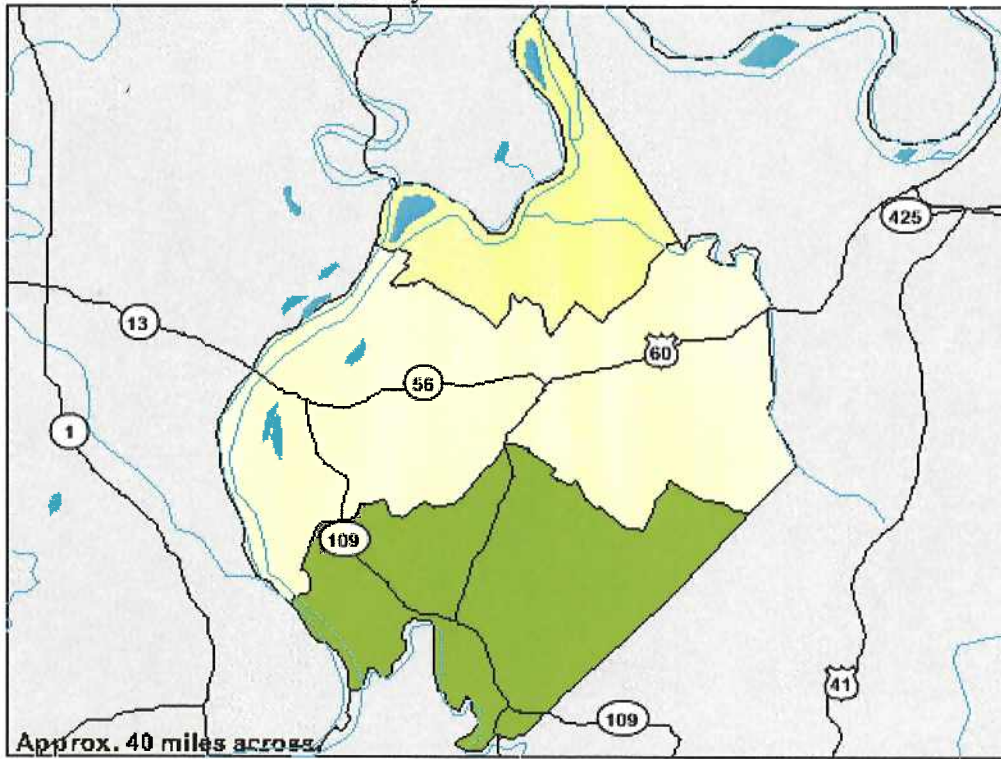
ATTACHMENT 2






ATTACHMENT 2

Percent of Persons 65 Years and Over in Union County by Census Tract





*Source: Census 2000 Summary File 3



Data Classes

Percent	
	11.4 - 11.4
	12.2 - 12.2
	15.7 - 15.7

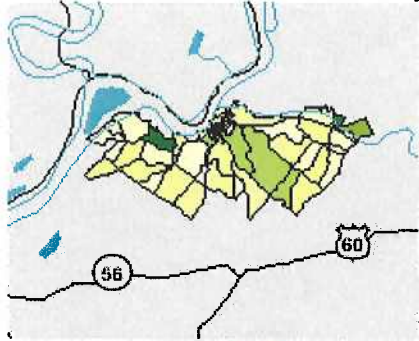
Features

-  Major Road
-  Street
-  Stream/Waterbody
-  Stream/Waterbody

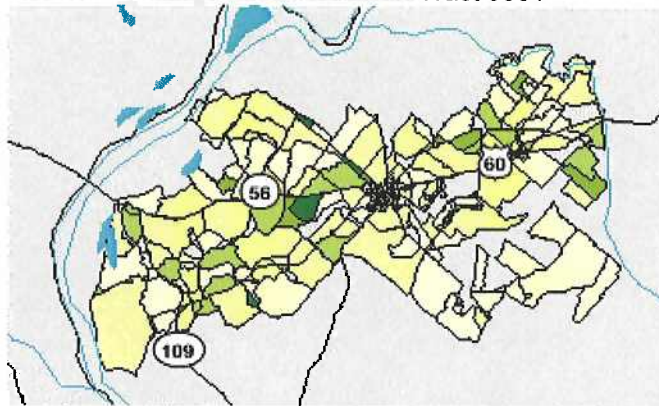
ATTACHMENT 2

Percent of Persons 65 Years and Over in Union County by Block

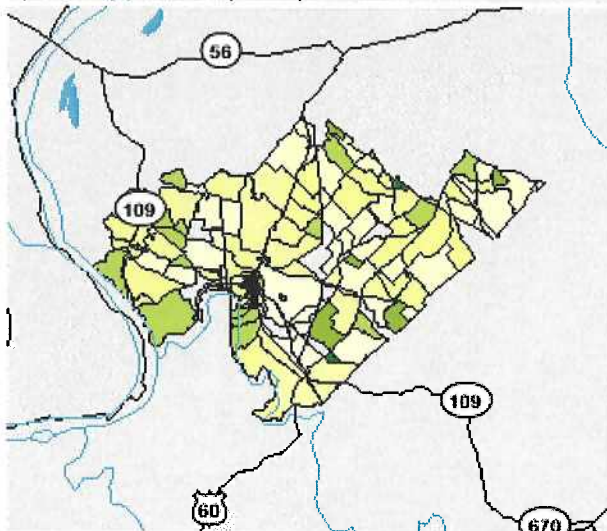
*Source: Census 2000 Summary File 3



Tract 9501



Tract 9502



Tract 9503

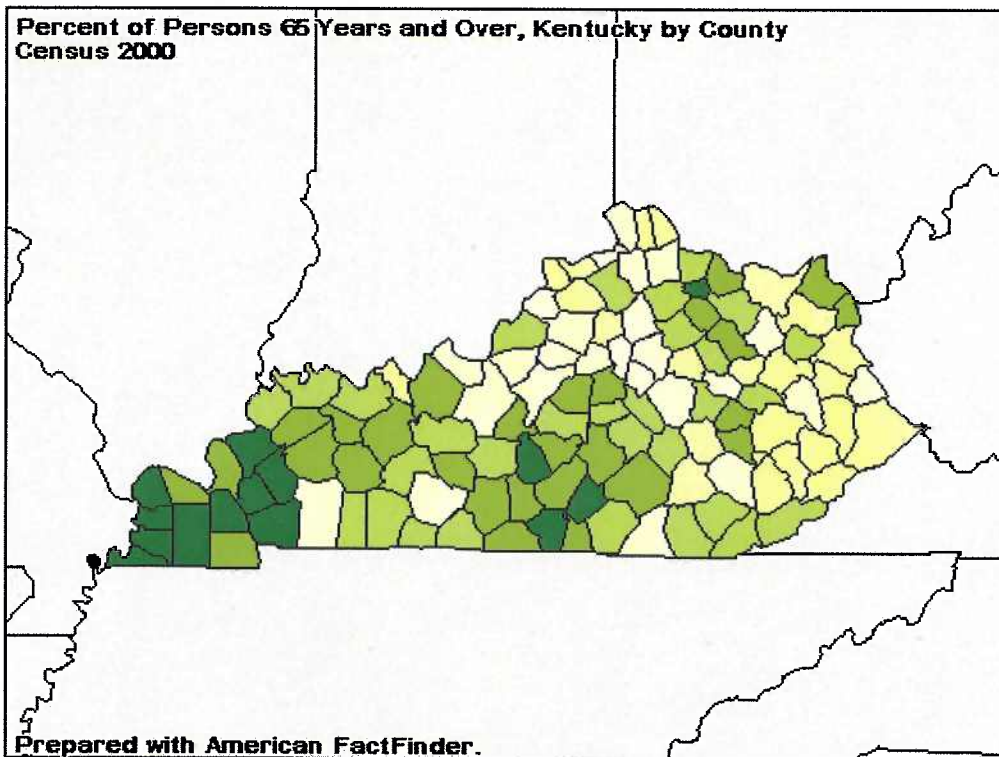
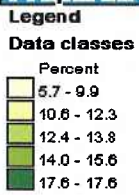
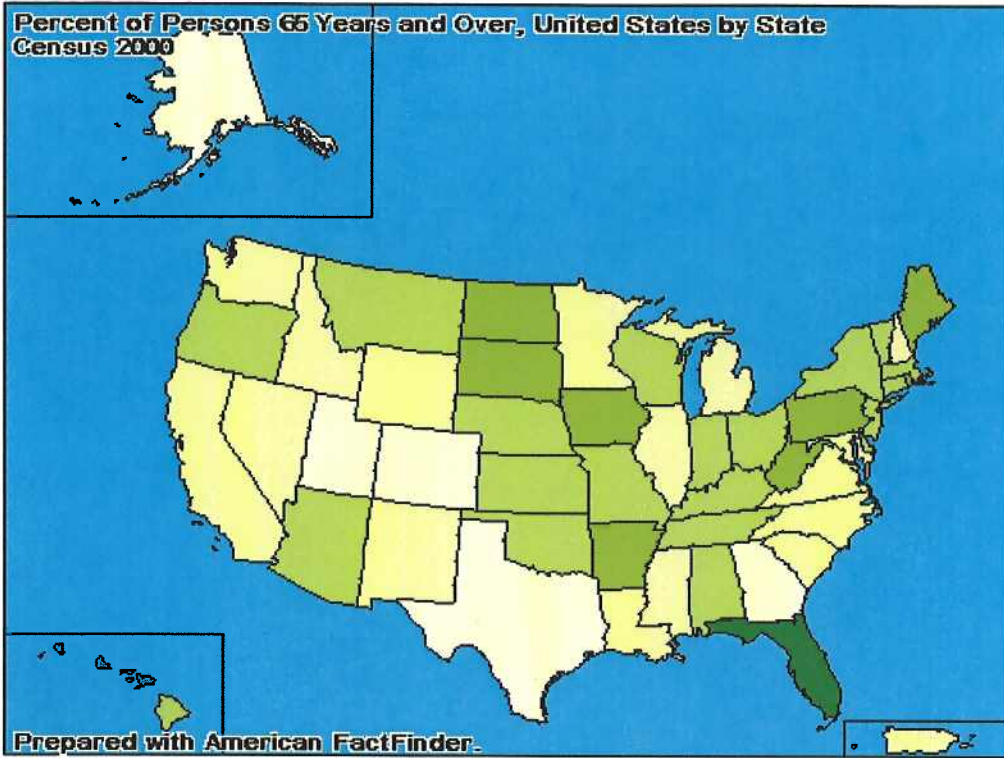
Data Classes

Percent
0.0 - 7.4
7.7 - 21.4
22.2 - 42.9
46.2 - 75.0
80.0 - 100.0

Features

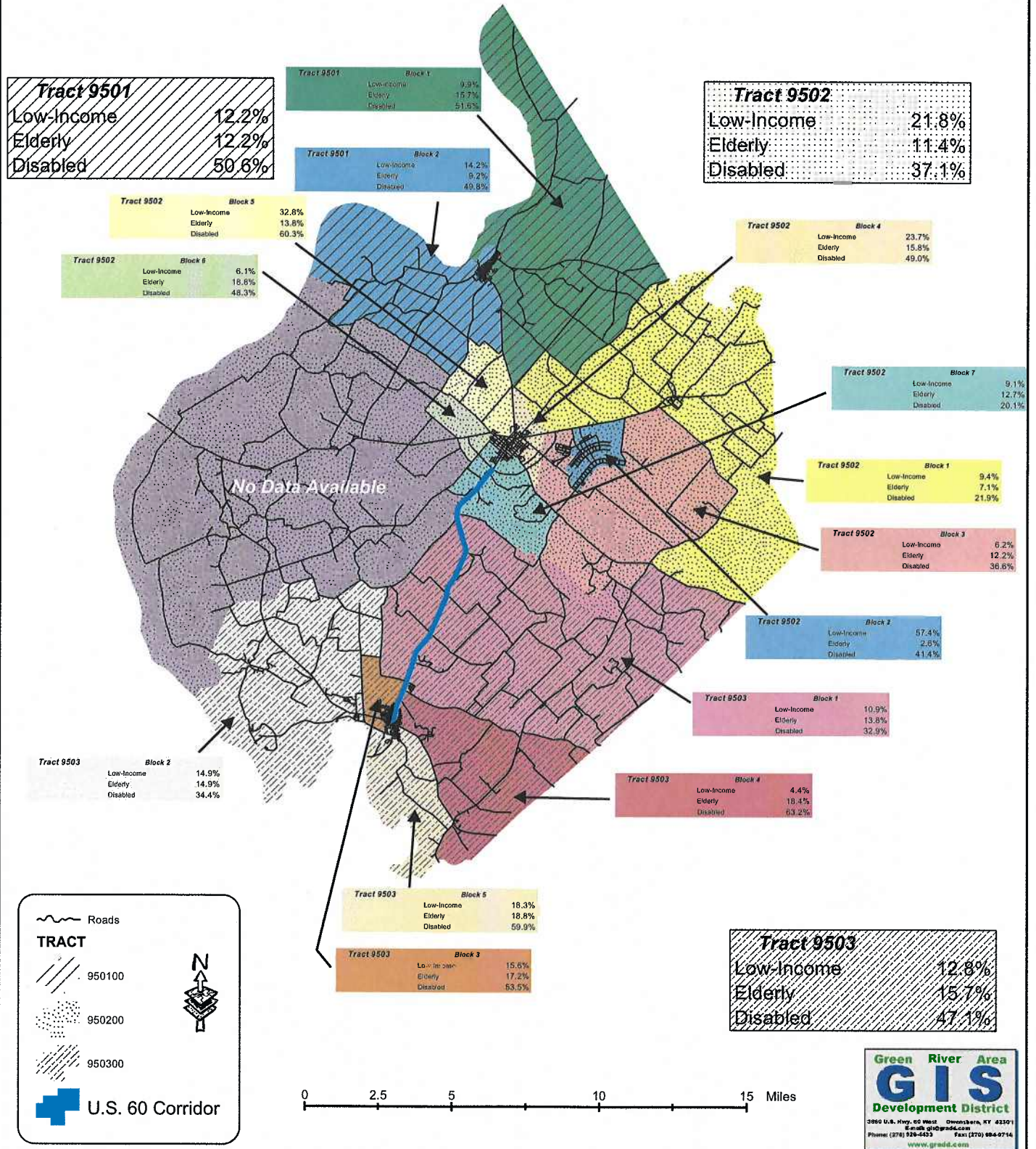
- Major Road
- Street
- Stream/Waterbody
- Stream/Waterbody

ATTACHMENT 2



U. S. 60 Widening Project

Census Tract and Block Information Showing Distribution of Low-Income and Poverty Levels as well as Disabled Persons along US Hwy 60



Census Data for Minorities

Populations, Percentages, & Map

ATTACHMENT 3

US 60
from mp 5.671
to 15.412

Tract 9502	<i>Total</i>	8,533	
	<i>White</i>	6,684	78.3%
	<i>Black</i>	1,620	19.0%
	<i>Hispanic</i>	191	2.2%
	<i>American Indian or Eskimo</i>	14	0.2%
	<i>Asian</i>	16	0.2%
	<i>Native Hawaiian or Pacific Islander</i>	0	0.0%
	<i>Other Race</i>	8	0.1%

Block 7	Total	1,236	
	White	1,204	97.4%
	Black	23	1.9%
	Hispanic	8	0.6%
	American Indian or Eskimo	1	0.1%
	Asian	0	0.0%
	Native Hawaiian or Pacific Islander	0	0.0%
	Other Race	0	0.0%

Tract 9503	<i>Total</i>	5,021	
	<i>White</i>	4,692	93.4%
	<i>Black</i>	266	5.3%
	<i>Hispanic</i>	49	1.0%
	<i>American Indian or Eskimo</i>	8	0.2%
	<i>Asian</i>	5	0.1%
	<i>Native Hawaiian or Pacific Islander</i>	0	0.0%
	<i>Other Race</i>	1	0.0%

Block 1	Total	1,412	
	White	1,390	98.4%
	Black	8	0.6%
	Hispanic	12	0.8%
	American Indian or Eskimo	0	0.0%
	Asian	1	0.1%
	Native Hawaiian or Pacific Islander	0	0.0%
	Other Race	1	0.1%

Block 3	Total	1,025	
	White	986	96.2%
	Black	19	1.9%
	Hispanic	15	1.5%
	American Indian or Eskimo	4	0.4%
	Asian	1	0.1%
	Native Hawaiian or Pacific Islander	0	0.0%
	Other Race	0	0.0%

ATTACHMENT 3

Block 4 Total	804	
White	681	84.7%
Black	119	14.8%
Hispanic	4	0.5%
American Indian or Eskimo	0	0.0%
Asian	0	0.0%
Native Hawaiian or Pacific Islander	0	0.0%
Other Race	0	0.0%

ATTACHMENT 3

Nearby Areas	Tract 9501	<i>Total</i>	1,922	
		<i>White</i>	1,824	94.9%
		<i>Black</i>	91	4.7%
		<i>Hispanic</i>	4	0.2%
		<i>American Indian or Eskimo</i>	2	0.1%
		<i>Asian</i>	1	0.1%
		<i>Native Hawaiian or Pacific Islander</i>	0	0.0%
		<i>Other Race</i>	0	0.0%
		Block 1 Total	916	
		White	875	95.5%
		Black	40	4.4%
		Hispanic	1	0.1%
		American Indian or Eskimo	0	0.0%
	Asian	0	0.0%	
	Native Hawaiian or Pacific Islander	0	0.0%	
	Other Race	0	0.0%	
	Block 2 Total	1,005		
	White	949	94.0%	
	Black	51	5.0%	
	Hispanic	3	0.3%	
	American Indian or Eskimo	1	0.1%	
	Asian	1	0.1%	
	Native Hawaiian or Pacific Islander	0	0.0%	
	Other Race	0	0.0%	
	Tract 9502			
	Block 1 Total	1,303		
	White	1,212	93.0%	
	Black	81	6.2%	
	Hispanic	8	0.6%	
	American Indian or Eskimo	0	0.0%	
	Asian	2	0.2%	
	Native Hawaiian or Pacific Islander	0	0.0%	
	Other Race	0	0.0%	
	Block 2 Total	1,813		
	White	745	41.1%	
	Black	902	49.8%	
	Hispanic	145	8.0%	
	American Indian or Eskimo	10	0.6%	
	Asian	6	0.3%	
	Native Hawaiian or Pacific Islander	0	0.0%	
	Other Race	5	0.3%	

ATTACHMENT 3

Block 3 Total	1,874	
White	1,723	91.9%
Black	130	6.9%
Hispanic	17	0.9%
American Indian or Eskimo	0	0.0%
Asian	4	0.2%
Native Hawaiian or Pacific Islander	0	0.0%
Other Race	0	0.0%

Block 4 Total	643	
White	517	80.2%
Black	118	18.3%
Hispanic	4	0.6%
American Indian or Eskimo	1	0.2%
Asian	3	0.5%
Native Hawaiian or Pacific Islander	0	0.0%
Other Race	0	0.0%

Block 5 Total	570	
White	229	40.2%
Black	334	58.6%
Hispanic	4	0.7%
American Indian or Eskimo	0	0.0%
Asian	0	0.0%
Native Hawaiian or Pacific Islander	0	0.0%
Other Race	3	0.5%

Block 6 Total	1,094	
White	1,054	96.3%
Black	32	2.9%
Hispanic	5	0.5%
American Indian or Eskimo	2	0.2%
Asian	1	0.1%
Native Hawaiian or Pacific Islander	0	0.0%
Other Race	0	0.0%

Tract 9503

Block 2 Total	927	
White	858	92.6%
Black	56	6.0%
Hispanic	12	1.3%
American Indian or Eskimo	0	0.0%
Asian	1	0.1%
Native Hawaiian or Pacific Islander	0	0.0%

ATTACHMENT 3

	Other Race	0	0.0%
Block 5 Total		853	
	White	777	91.1%
	Black	64	7.5%
	Hispanic	6	0.7%
	American Indian or Eskimo	4	0.5%
	Asian	2	0.2%
	Native Hawaiian or Pacific Islander	0	0.0%
	Other Race	0	0.0%
Union County	<i>Total</i>	15,476	
	<i>White</i>	13,200	85.3%
	<i>Black</i>	1,977	12.8%
	<i>Hispanic</i>	244	1.6%
	<i>American Indian or Eskimo</i>	24	0.2%
	<i>Asian</i>	22	0.1%
	<i>Native Hawaiian or Pacific Islander</i>	0	0.0%
	<i>Other Race</i>	9	0.1%
Kentucky	<i>Total</i>	4,004,019	
	<i>White</i>	3,608,013	90.1%
	<i>Black</i>	293,639	7.3%
	<i>Hispanic</i>	59,939	1.5%
	<i>American Indian or Eskimo</i>	7,939	0.2%
	<i>Asian</i>	29,368	0.7%
	<i>Native Hawaiian or Pacific Islander</i>	1,275	0.0%
	<i>Other Race</i>	3,846	0.1%
United States	<i>Total</i>	276,819,760	
	<i>White</i>	194,552,774	70.3%
	<i>Black</i>	33,947,837	12.3%
	<i>Hispanic</i>	35,305,818	12.8%
	<i>American Indian or Eskimo</i>	2,068,883	0.7%
	<i>Asian</i>	10,123,169	3.7%
	<i>Native Hawaiian or Pacific Islander</i>	353,509	0.1%
	<i>Other Race</i>	467,770	0.2%

U. S. 60 Widening Project

Census Tract and Block Information Showing
Distribution of Minorities along US Hwy 60

Tract 9501	
White	94.9%
Black	4.7%
Hispanic	0.2%
American Indian or Eskimo	0.1%
Asian	0.1%
Native Hawaiian or Pacific Islander	0.0%
Other Race	0.0%

Tract 9502	
White	78.3%
Black	19.0%
Hispanic	2.2%
American Indian or Eskimo	0.2%
Asian	0.2%
Native Hawaiian or Pacific Islander	0.0%
Other Race	0.1%

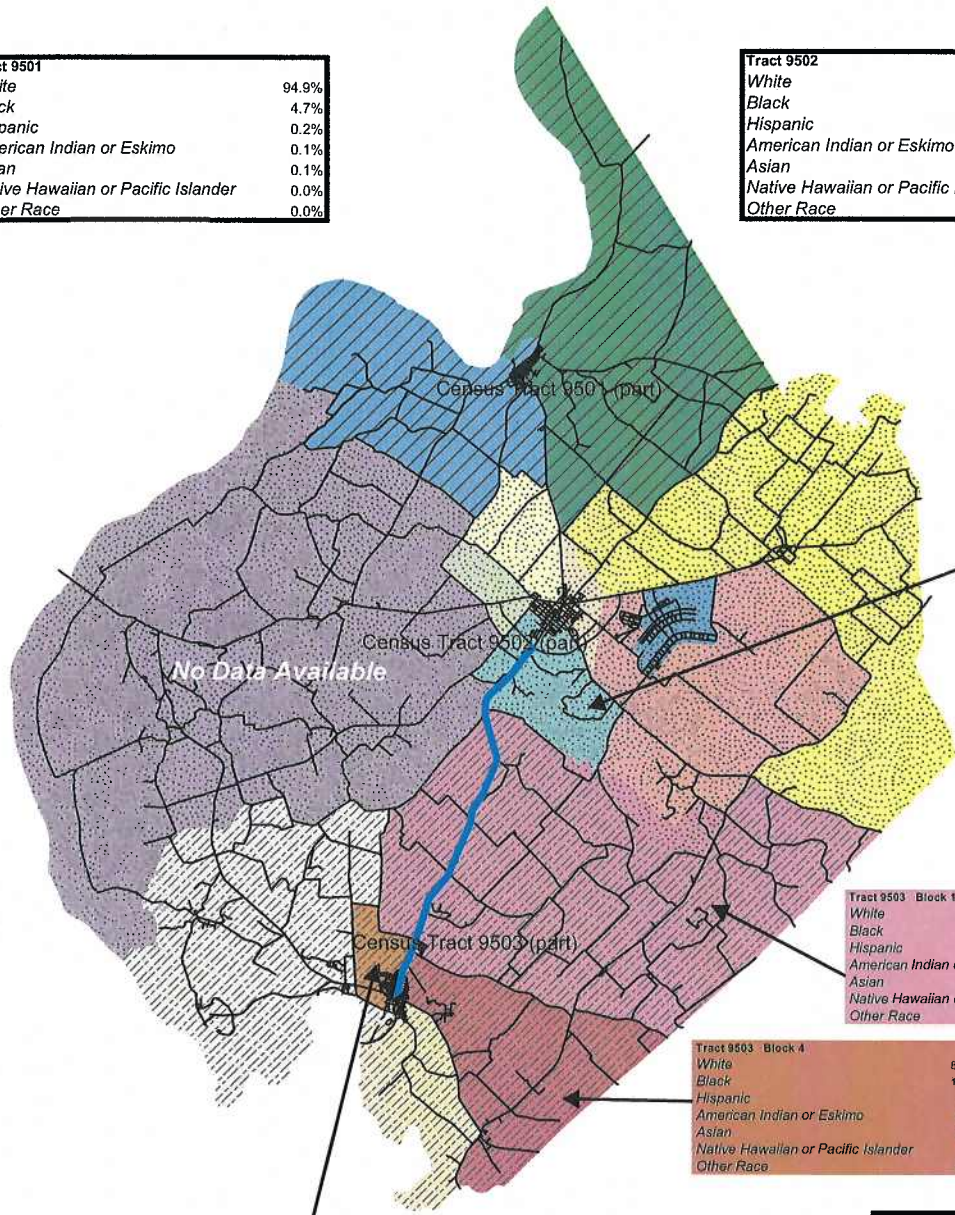
Tract 9502 Block 7	
White	97.4%
Black	1.9%
Hispanic	0.6%
American Indian or Eskimo	0.1%
Asian	0.0%
Native Hawaiian or Pacific Islander	0.0%
Other Race	0.0%

Tract 9503 Block 1	
White	93.4%
Black	5.3%
Hispanic	1.0%
American Indian or Eskimo	0.2%
Asian	0.1%
Native Hawaiian or Pacific Islander	0.0%
Other Race	0.0%

Tract 9503 Block 4	
White	84.7%
Black	14.8%
Hispanic	2.2%
American Indian or Eskimo	0.0%
Asian	0.0%
Native Hawaiian or Pacific Islander	0.0%
Other Race	0.0%

Tract 9503	
White	93.4%
Black	5.3%
Hispanic	1.0%
American Indian or Eskimo	0.2%
Asian	0.1%
Native Hawaiian or Pacific Islander	0.0%
Other Race	0.0%

Tract 9503 Block 3	
White	96.2%
Black	1.9%
Hispanic	1.5%
American Indian or Eskimo	0.4%
Asian	0.1%
Native Hawaiian or Pacific Islander	0.0%
Other Race	0.0%



No Data Available

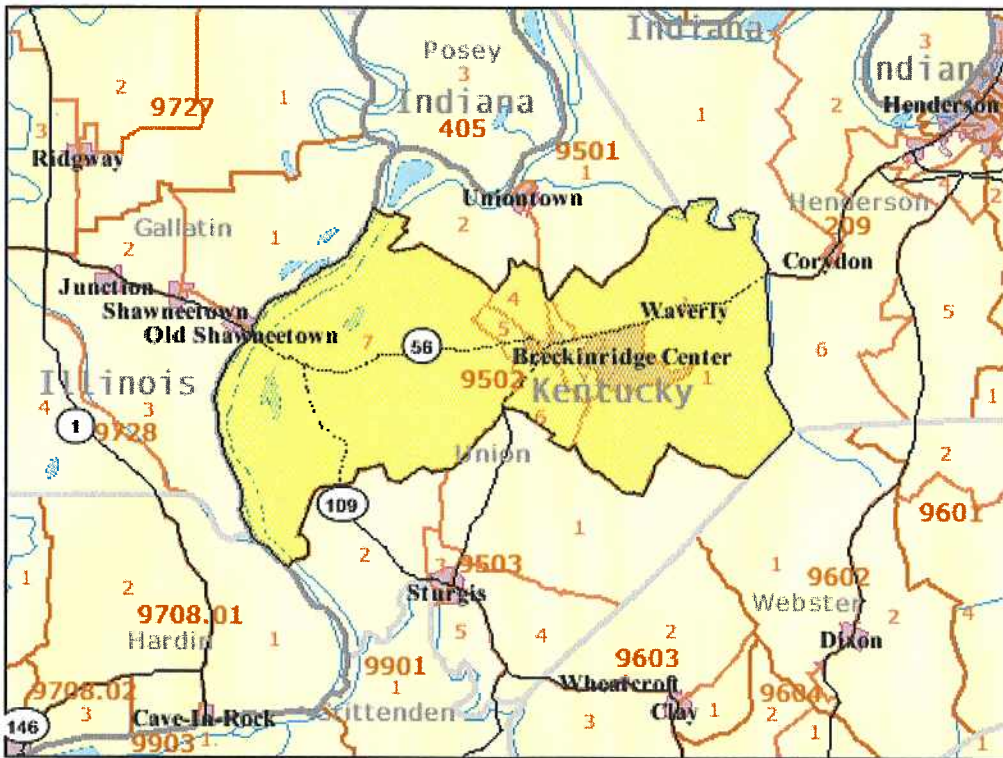
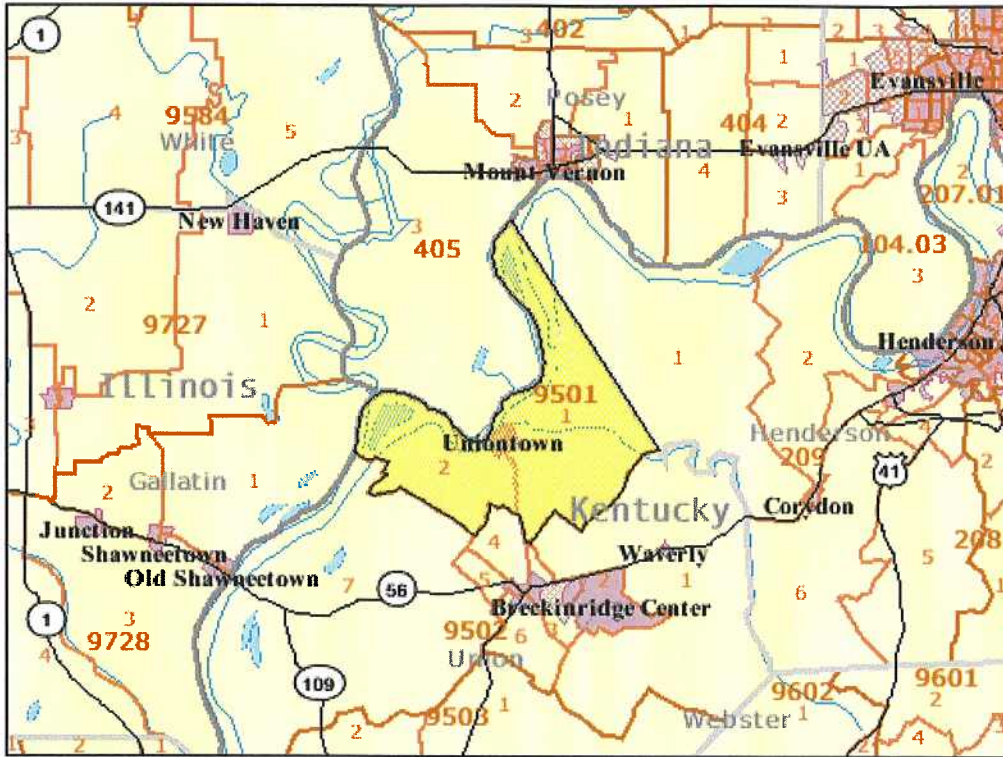
Roads
TRACT
 950100
 950200
 950300
 U.S. 60 Corridor



Green River Area
GIS
 Development District
 3850 U.S. Hwy. 60 West Overton, KY 40301
 Phone: (270) 958-6523 Fax: (270) 958-9754
www.grad6.com

Additional Maps

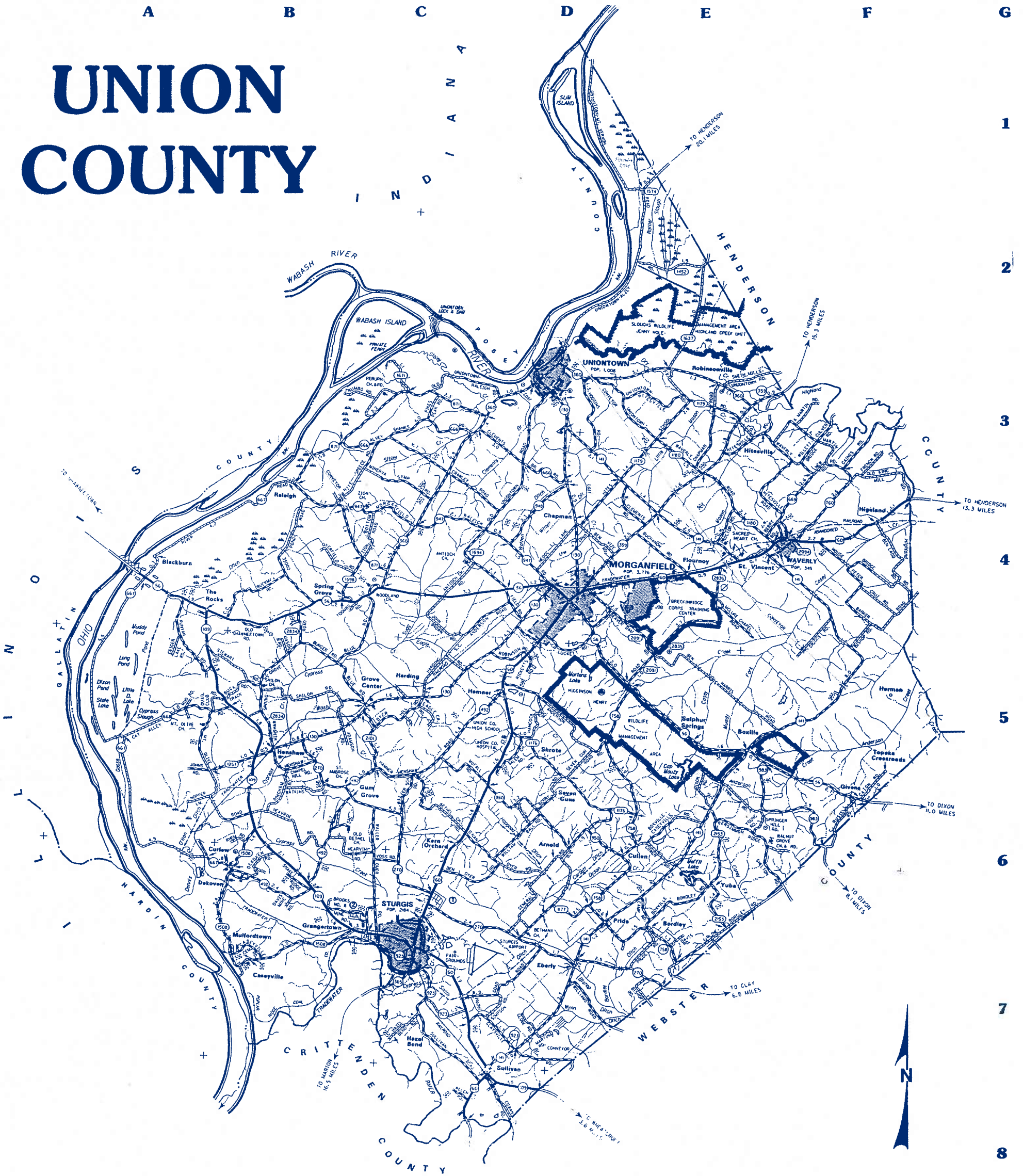
ATTACHMENT 4



ATTACHMENT 4

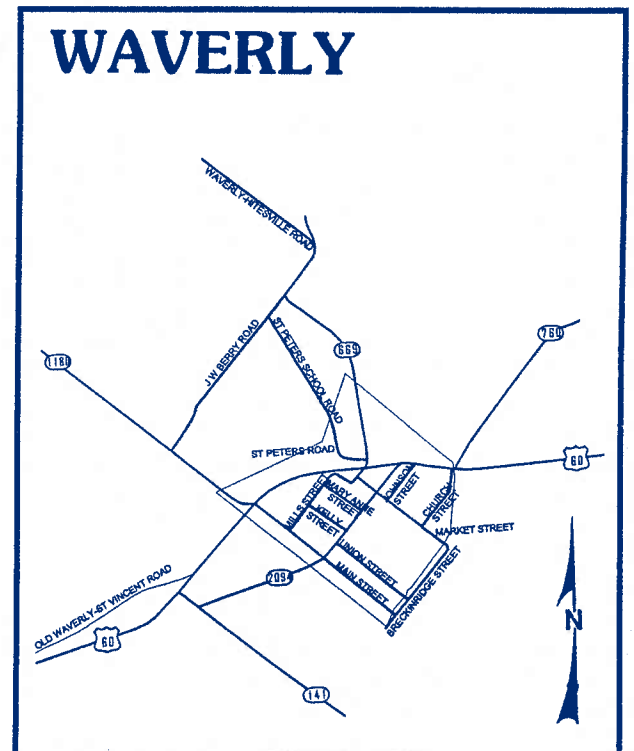
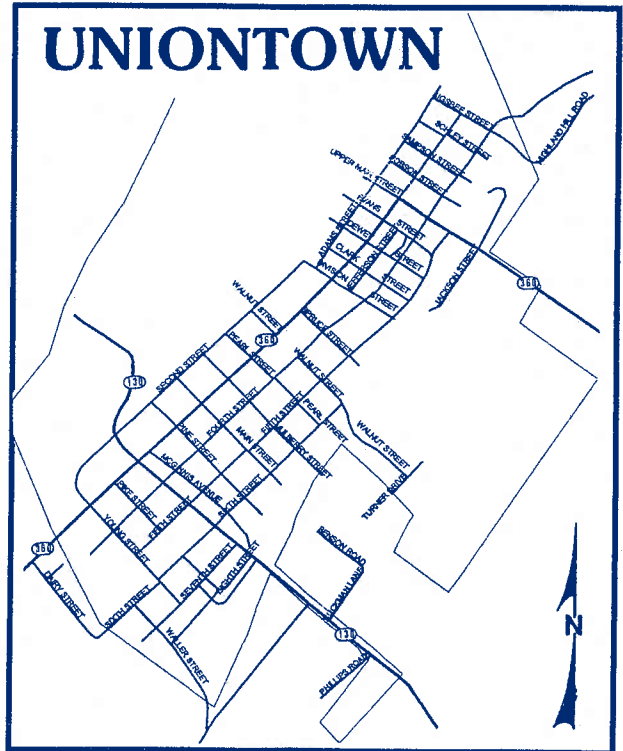


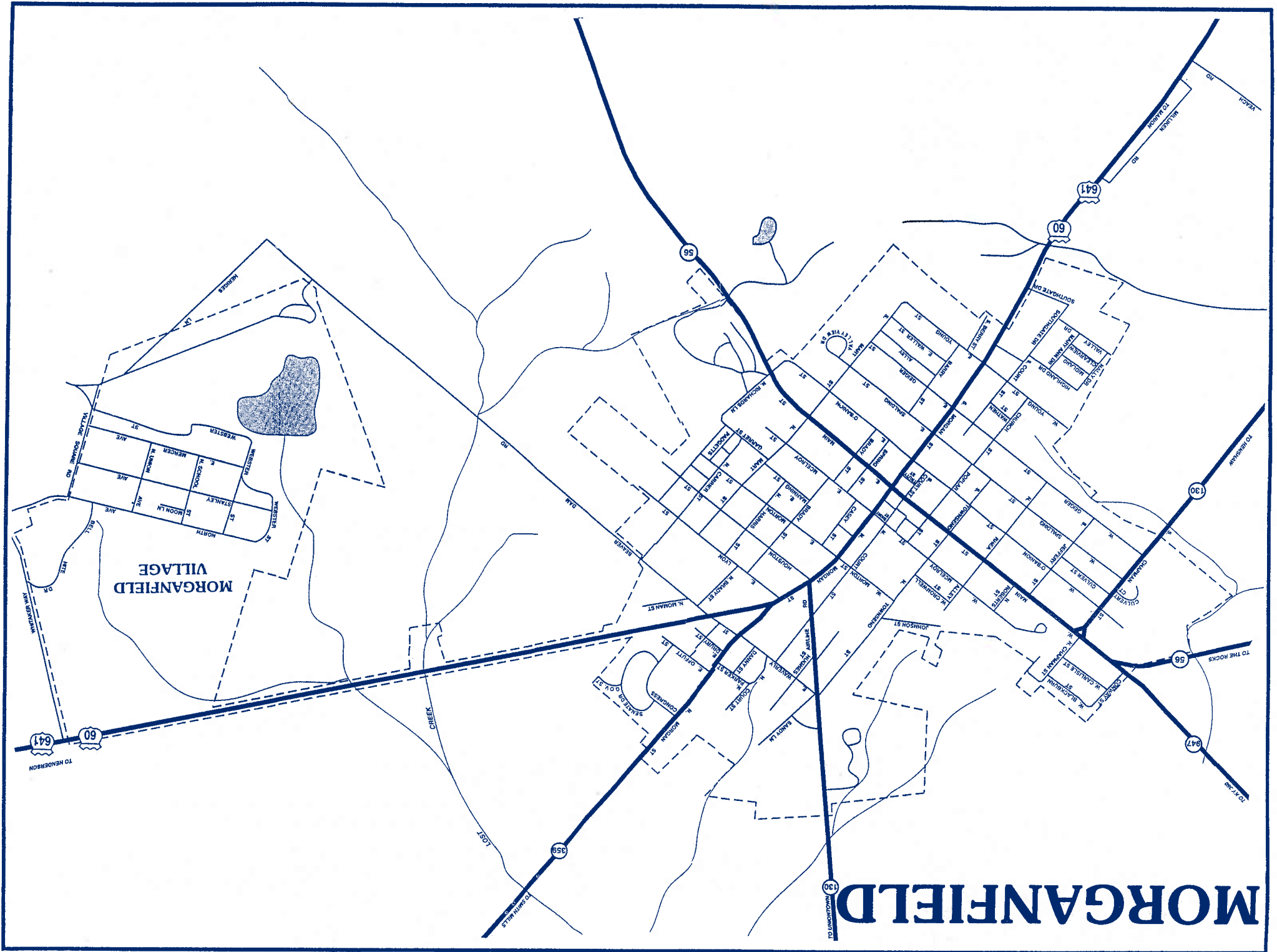
UNION COUNTY



UNION COUNTY STREET INDEX

ADAMSON RD. CS	FIELD RD D4	PERSIMMON RIDGE RD 36
AIRLINE-BORDLEY RD E6.7	FRENCH RD F3	PETER CRUZ RD F4
ALVEY SHANKS RD C3	G.H. PROCTOR RD E4	PIKES PEAK RD C3
ANDERSON RD B5	GAINES RD F3	PRESS RD C7
ANTIOCH CH. RD C4	GENERAL HOLT RD D6	PRIDE RD D7
BAKER RD F4	BEIGER LAKE RD AS	PRIDE RD E6
BEAVER DAM B-D4	GLASS RD C7	QUAIL CLUB RD B5
BEAVER DAM RD. D4.5	GLOBE RD D7	RALIEGH RD C,D4
BEN DYER RD. C,D6	GOOSE BOND RD B4	REBURN CH. RD C3
BEN HARRIS RD E,F5	GRIGG RD F4.5	RHEM RD B6
BEN LADD RD F4	HAMNER-HENSHAW RD C5.6	RICKETT'S RD D5
BEN VIZE RD D4	HANCOCK RD D5	RIVER RD B4-6
BERRY RD D6	HARDING ROAD CS	ROAD E. 35
BISHOP RD E6	HAZEL BEND RD C7	ROBINSON RD D5
BISHOP RD F4	HEDGE LN D4	S.C. ANDERSON RD C,D5
BLUE RD CS	HENSHAW CHAPEL HILL RD B6	SACRED HEART CH. RD 34
BOXVILLE-BORDLEY RD E5	HENSHAW SPRING CHAPEL RD B5	SALEM CH. RD D5
BOXVILLE-CASEVILLE RD 36	HITES-SPEECE RD C3	SEEN GUN RD B5, 6
BROOKS NO. 8 C6	HITES SCHOOL RD D3,4	SHELTON RD F6
BROOKS NO. 8 MINE RD C7	HITESVILLE RD 33,4	SIMPSON RD D7
BUCHANON RD 34	HOPPER LN B6	SMITH MILLS UNIONTOWN RD E3
BUCK TRAIL RD B5	HOUSE BRIDGE RD F4	SNAKE RIDGE RD B6
BUCKMAN RD B4	J. HEAVIN RD B, C6	SPRINGER HILL RD F6
BUNGER RD B5	J.W. BERRY RD E,F4	STEWART RD B5
BUNYAN RD B5	JOHN BROWN RD C5	SULLIVAN RD C7, D8
BUTTS RD C7	JOHNS RD B6	SUN AVE D7
C. RUSSELL RD F6	L.S. HODGINS RD D3	TAYLOR LN C7
CAMP RD 36	LEARY RD C7	TRADEWATER RD D,34
CASEYVILLE RD B7	LEE DR C6	TRUMBOW RD C3
CAT ALLEY RD A,B5	LIBERTY RD C7	UNIONTOWN-ALZEY RD D, E2
CHAPMAN RD E3	LITTLE BETHEN CHURCH RD C6	UNIONTOWN-HITESVILLE RD E3
CHESTNUT ST C6	LUCKETT RD B5	UNIONTOWNNT. VERBIB RD D1
CLAYSVILLE RD D7	LYNN RD 36	V. T. CRAWLEY RD C3, D4
CLEMENTS BRANCH RD D3	MARTIN RD D7	VOSS RD C6
COWAN RD D8	MARTIN RD F3	W. CLEMENTS RD E4
COWDEN RD D8	MASON RD B5	W. B. GOAD ROAD D7
COWEN RD 36	MACCLURE CHAPEL RD E4	WALLER OMER RD C6,7
DAVIS MINE RD B6	MINE RD C7	WALLER SCHOOL RD C6
DAVIS RD 36	MINERVA SYMP RD C3	WALNUT GROVE CH. RD F6
DEKOVEN RD B6	MORGANFIELD RD C4	WATKINS RD B6
DIXON RD E6	MT. OLIVE RD B5.8	WELCH RD D6
DUNCAN RD C6	MUD RD B5	WILLET-CULVER RD F3
DYER HULL RD CS	NEW RD F3	WILLIAM BALL RD D6
EAGLE CRK. RD CS	OLD KING MILL RD F3.4	WILLIAMS RD D7
ELM ST C6	OLD SHAWNEETOWN RD B5	YARBOROUGH DR C6
	OLD UNIONTOWN-RALIEGH RD C,D3	YOUNG RD E8
	O'NAN-DYER RD D6	ZION BOTTOM RD C4
	OVERFIELD RD C4	





Map of Union County



Compliments of
Downtown Morganfield, Inc.
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Little Sturgis Rally
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Morganfield Chamber of Commerce
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Sturgis Chamber of Commerce
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Union County Economic Development
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