Appendix E - RESOURCE AGENCY RESPONSES

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-3410
FAX (502) 564-0111
www.dep.ky.gov

Leonard K. Peters
Secretary

R. Bruce Scott
Commissioner

Peter T. Goodmann
Director

September 8, 2014

Mr. John Moore, PE, Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, Kentucky 40622

RE: US-68 Scoping Study
From Cumberland Parkway to KY 61/KY 3535 (Industrial Park Road) intersection in Greensburg
Greensburg, Green and Metcalfe County, Kentucky
Item No. 3-203.00

Dear Mr. Moore:

The Division of Water has received your request for comments on the subject project. We have reviewed the documentation presented and have noted the following:

- Water and sewer lines are present in the proposed project area and should be considered during design and construction to avoid damage to existing infrastructure or disruption of service. It is also recommended local water/wastewater utilities be contacted to incorporate any proposed lines into the planning process. Local utilities with the potential to be affected by this project include Greensburg Sewer Department and Greensburg Water Department.
- A cursory review of the proposed project suggests Individual Water Quality Certification (WQC) may be necessary. KTC should be prepared to reduce and minimize stream and wetland impacts as much as possible. If the stream and wetland impacts, on a cumulative basis, exceed the General Certification conditions, an Individual WQC will be required.

If we can provide any further assistance, please do not hesitate to call, (502)564-3410, or lori.dials@ky.gov.

Sincerely,

Lori Dials

Lori Dials
Wastewater Municipal Planning Section
Division of Water

Steven L. Beshear
Governor

Terry Holliday, Ph.D.
Commissioner of Education

EDUCATION AND WORKFORCE DEVELOPMENT CABINET
DEPARTMENT OF EDUCATION
Capital Plaza Tower • 500 Mero Street • Frankfort, Kentucky 40601
Phone: (502) 564-4770 • www.education.ky.gov

September 3, 2014

Mr. John Moore, Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street 5th Floor
Frankfort, KY 40622

Dear Mr. Moore:

Thank you for the opportunity to review the "US 68 Scoping Study from Cumberland Parkway to KY 61/KY 3535 (Industrial Park Road) intersection in Greensburg" for Metcalfe County and Green County. I forwarded the information to the District Facilities Branch and the Student Tracking and Transportation Branch here at the Kentucky Department of Education (KDE) for their review and input. Staff reported that there is nothing in the report that impacts anything under the direct control of KDE in terms of school facilities or school bus routes. However, it is the recommendation of KDE staff that the Transportation Cabinet contact the Metcalfe County School District and the Green County School District directly to solicit feedback from school district officials who have a better knowledge of how this project could impact schools in the affected area. The contact information is:

Superintendent Benny Lile
Metcalfe County School District
109 Sartin Drive
Edmonton, KY 42129
(270) 432-3171

Superintendent James Frank
Green County School District
402 East Hodgenville Ave
Greensburg, KY 42743
(270) 932-6601

If you have any questions concerning school facilities or school bus transportation in general, please contact Kay Kennedy, KDE Director, Division of District Support at kay.kennedy@education.ky.gov or (502) 564-3930.

Sincerely,

Terry Holliday, Ph.D.

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Div. of Planning

cc: Thomas Zawacki, Secretary, Education and Workforce Development Cabinet

Metcalfe County Board of Education

109 Sartin Drive • Edmonton, KY 42129 • Phone (270) 432-3171 • Fax (270) 432-3170

Benny Lile Ed. D,
Superintendent

September 16, 2014

Dear Mr. Ross,

I was glad to be a part of the US 68 scoping study meeting that was held last month at the Sulphur Well community building in Metcalfe County. The presentation was extremely professional and very informative. Even though I filled out a paper survey that night and submitted comments via the web site, I would still like to share the following thoughts with you.

After consulting with our district transportation director, we are in agreement that there are two priority locations on the proposed study that are critical to bus safety for our students. The first would be the turn onto **Foundation Church Road**. This highway entry point sits just below a steep hill and dangerous curve. It is a hazard for our bus to turn in and pull out at this location. The second is the intersection of **Highway 70 and 68**. This is a very busy intersection and it sits at the entry of a sharp, and blind, curve.

I understand there are many priorities in such a project and funding is always an issue. I did not want to pass up the opportunity to share with you the points that would have the most impact on the safety of our school children. Thank you so much for your time and consideration.

Sincerely,

Benny Lile, Ed.D
Superintendent
Metcalfe County Schools

cc: Greg Meredith
Sen. David Givens
Rep. Bart Rowland
Judge Ex. Greg Wilson

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
330 West Broadway, Suite 265
Frankfort, Kentucky 40601
(502) 695-0468

September 3, 2014

Mr. John W. Moore, PE
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, KY 40622

Re: FWS 2014-B-0103; KYTC 3-203.00; US 68 improvements from Cumberland Parkway to KY 61; located in Metcalfe and Green counties, Kentucky

Dear Mr. Moore:

Thank you for the opportunity to provide comments on the above-referenced project. The U.S. Fish and Wildlife Service (Service) has reviewed this proposed project and offers the following comments in accordance with the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*). This is not a concurrence letter. Please read carefully, as further consultation with the Service may be required.

In accordance with the provisions of the Fish and Wildlife Coordination Act, the Service has reviewed the project with regards to the effects the proposed actions may have on wetlands and/or other jurisdictional waters. We recommend that project plans be developed to avoid impacting wetland areas and/or streams, and reserve the right to review any required federal or state permits at the time of public notice issuance. The U.S. Army Corps of Engineers should be contacted to assist you in determining if wetlands or other jurisdictional waters are present or if a permit is required.

In accordance to section 7 of the ESA, the Service must also consider the effects of actions interrelated and interdependent to the proposed project. "Interrelated actions" are those that are part of a larger action and depend on the larger action for their justification and "interdependent actions" are those that have no independent utility apart from the action under consideration. Please inform us of any future actions and/or projects (*i.e.*; water/sewer lines, electrical transmission lines, subdivisions, commercial development) that would reasonably occur as a result of the proposed project so that we may adequately analyze those effects.

In order to assist you in determining if the proposed project has the potential to impact protected species we have searched our records for occurrences of listed species within the vicinity of the proposed project. Based upon the information provided to us and according to our databases, we

believe that the following federally listed species have the potential to occur within the project vicinity. The listed species are:

Group	Species	Common name	Legal* Status
Mammals	*Myotis grisescens*	gray bat	E
	Myotis sodalis	Indiana bat	E
	Myotis septentrionalis	Northern long-eared bat	P
Mussels	*Pleurobema clava*	clubshell	E
	Cyprogenia stegaria	fanshell	E
	Pleurobema plenum	rough pigtoe	E
	Plethobasus cyphyus	sheepnose	E
	Cumberlandia monodonta	spectaclecase	E
	Lampsilis abrupta	pink mucket	E
	Obovaria retusa	ring pink	E
	Plethobasus cooperianus	orangefoot pimpleback	E
	Quadrula cylindrica cylindrica	rabbitsfoot	T, CH
	Epioblasma triquertra	snuffbox	E
Fish	*Crystallaria cincotta*	diamond darter	E,CH

** Key to notations: E = Endangered, T = Threatened, P = Proposed, C = Candidate, CH = Critical Habitat*

We must advise you that collection records available to the Service may not be all-inclusive. Our database is a compilation of collection records made available by various individuals and resource agencies. This information is seldom based on comprehensive surveys of all potential habitats and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality.

Gray bat

The proposed project is within the foraging range associated with a gray bat summer roosting site; and the action area of the US 68 connector alternative indicated on the provided maps in "yellow" may include that roosting site. Gray bats roost, breed, rear young, and hibernate in caves year round. They migrate between summer and winter caves and will use transient or stopover caves along the way. Gray bats eat a variety of flying aquatic and terrestrial insects present along streams, rivers, and lakes. Low-flow streams produce an abundance of insects and are especially valuable to the gray bat as foraging habitat. For hibernation, the roost site must have an average temperature of 42 to 52 degrees F. Most of the caves used by gray bats for hibernation have deep vertical passages with large rooms that function as cold air traps. Summer caves must be warm, between 57 and 77 degrees F, or have small rooms or domes that can trap the body heat of roosting bats. Summer caves are normally located close to rivers or lakes where the bats feed. Gray bats have been known to fly as far as 12 miles from their colony to feed.

Because we have concerns relating to the gray bat on this project and due to the lack of occurrence information available on this species relative to the proposed project area, we have the following recommendations relative to gray bats.

- The action area of the proposed project may include a known gray bat summer roosting site, and other caves, rock shelters, and/or abandoned underground mines may occur within the project area. We recommend that the project proponent survey the project area for additional caves or cave-like features, evaluate those features, and avoid impacts to any known or potential gray bat habitat.
- Sediment Best Management Practices (BMPs) should be utilized and maintained to minimize siltation of the streams located within and in the vicinity of the project area, as these streams represent potential foraging habitat for the gray bat.

Indiana bat

The proposed project site is located within habitat designated as "potential habitat" for the Indiana bat. Based on this, we believe that: (1) forested areas in the vicinity of and on the project area provide 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 potentially provide suitable wintering habitat for the Indiana bat. KYTC should address the impacts to the Indiana bat through adherence to the September 6, 2012 Indiana bat Programmatic Agreement between KYTC, FHWA, and the Service.

Northern long-eared bat

The proposed project is located within habitat designated as "potential habitat" for the northern long-eared bat. The species is currently proposed for federal listing under the ESA. During the summer, northern long-eared bats typically roost singly or in colonies in a wide-variety of forested habitats, where they seek shelter during daylight hours underneath bark or in cavities/crevices of both live trees and snags, including relatively small trees and snags that are less than 5 inches in diameter at breast height (DBH). Northern long-eared bats have also been documented roosting in man-made structures (i.e., buildings, barns, etc.) during the summer. According to current winter occurrence data, northern long-eared bats predominately winter in hibernacula that include caves, tunnels, and underground mine passages.

Although species proposed for listing are not afforded protection under the ESA, when a species is listed, the prohibitions against jeopardizing its continued existence and unauthorized take are effective immediately, **regardless of an action's stage of completion**. Therefore, to avoid significant project delays, we recommend that you contact our office to identify and resolve potential conflicts regarding the northern long-eared bat in your project area.

Federally listed mussels

Freshwater mussels are one of the most imperiled groups of animals in North America. Reservoir construction, siltation, channelization, and water pollution are all factors that have contributed to the decline of our native mussel populations. The runoff from urban areas has degraded the quality of water and the substrate of many streams. As filter feeders, mussels are sensitive to contaminants and function as indicators of problems with water quality. Several species of federally listed mussels are known to exist in the Green River and Russell Creek in

Kentucky. Additionally, designated critical habitat for the rabbitsfoot exists in the Green River within the action area of the proposed project.

Diamond darter

The diamond darter was historically distributed throughout the Ohio River Basin including the Muskingum River in Ohio; the Ohio River in Ohio, Kentucky, and Indiana; the Green River in Kentucky; and the Cumberland River Drainage in Kentucky and Tennessee. The species has been extirpated from all these streams and is now known to occur only within the lower Elk River in West Virginia. Although not currently occupied, a reach of the Green River, including the portion within the action area of the proposed project, is designated critical habitat for the species. The reach has good water quality and supports fish species that have similar habitat requirements including clean sand and gravel substrates, low levels of siltation, and healthy benthic macroinvertebrate populations for prey items. To be designated as critical habitat, the reach was identified as essential for the conservation of the species.

Thank you again for your request. Your concern for the protection of endangered and threatened species is greatly appreciated. If you have any questions regarding the information that we have provided, please contact Jessi Miller at (502) 695-0468 extension 104.

Sincerely,

Virgil Lee Andrews, Jr.
Field Supervisor

United States Department of Agriculture
NRCS Natural Resources Conservation Service
1925 Old Main Street
Suite 2
Maysville, KY. 41056
Ph: 606-759-5570

To: John Moore, P.E.
KY Transportation Cabinet
Frankfort, Kentucky 40622

September 19, 2014

Re: US 68 Scooping Study from Cumberland Parkway to KY 61 / KY 3535 (Industrial Park Road) intersection in Greensburg
Metcalfe and Green County
Item No. 3-203.00

Mr. Moore,

NRCS does not officially do environmental assessments for these types of projects, but provides information on the soils and/or impact to farmland according to the criteria set forth in 1985 National Food Security Act Manual.

Attached are soils maps and separate farmland classification maps of the US 68 study corridor using the shapefile provided by Stantec. Unfortunately, I was unable to use the shapefile for the Greensburg Connector, but was able to manually recreate the study area on the maps and provide soils and farmland classification information for it. I have included the brief soils descriptions for the soil maps units in both Green and Metcalfe Counties along with a separate farmland classification legend for each county. These legends are for the entire counties or soil survey areas and some soil map units shown may not be in the actual corridors.

At this time, I did not separate out those areas of either study corridor that have been developed, (areas of urban, right-a-ways, residences, or other non-farmland uses) and would no longer be considered as prime farmland or statewide important farmland. This would done with the submission of the NRCS-CPA-106 (Farmland and Conversion Impact Rating Form), for a corridor type project.

If needed, additional information on the soils of Green or Metcalfe Counties, KY is available on-line through USDA's Web Soil Survey.

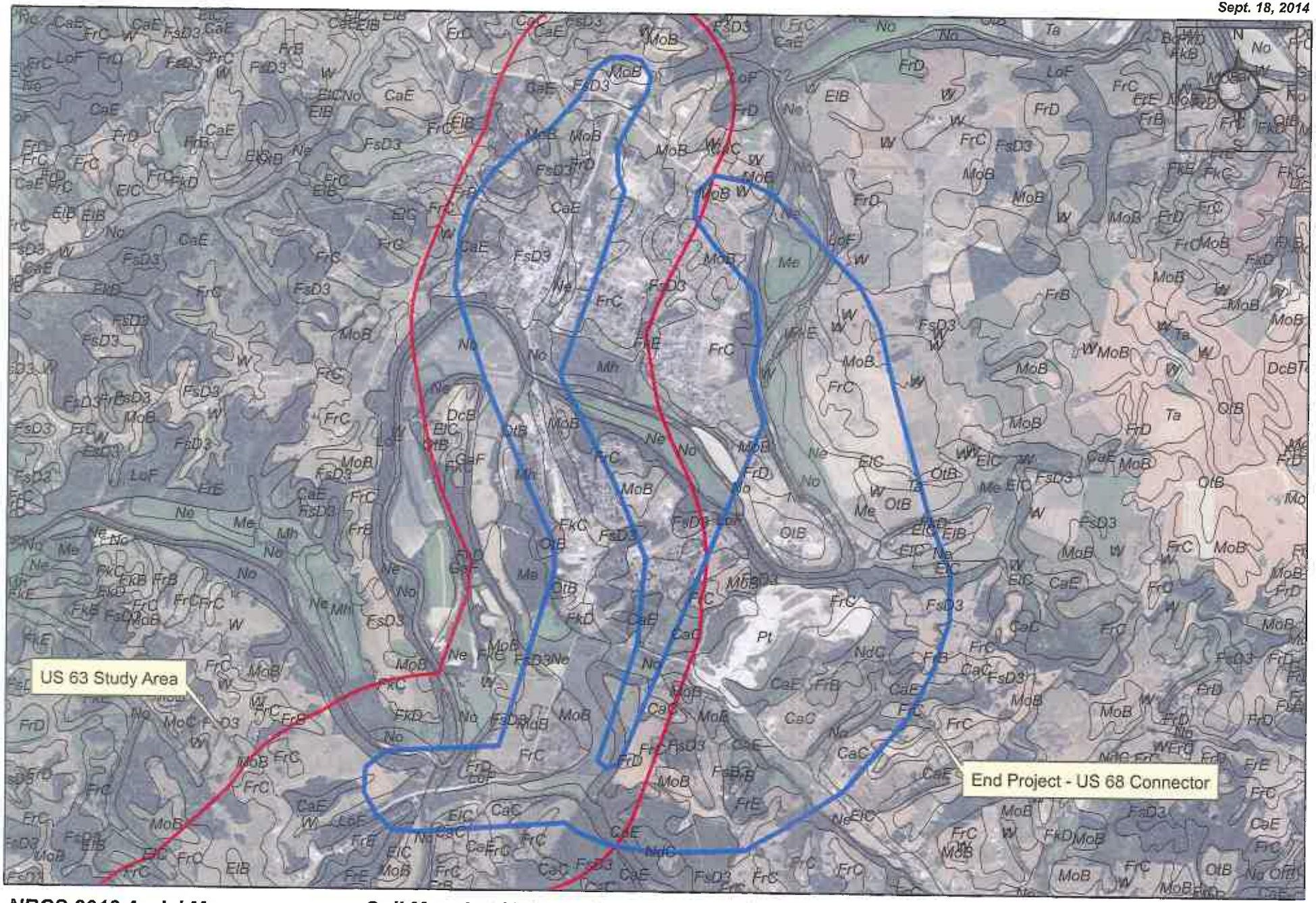
If this office may be of additional assistance, please do not hesitate to contact my office in Maysville Ky. or contact the NRCS District Conservationist 1-270-465-8554 for Green Co. and 1-270-629-6811 for Metcalfe Co.

Steve Jacobs
Resource Soil Scientist, NRCS, Maysville, KY.

cc: Kathy Hodges, NRCS District Conservationist, (Green Co.) Campsbellsville, KY
Samuel Vanmeter, Supervisory Natural Resource Manager, (Metcalfe Co.) Glasglow, KY

End Project - US 68 Greensburg Connector, Green Co. KY

Sept. 18, 2014



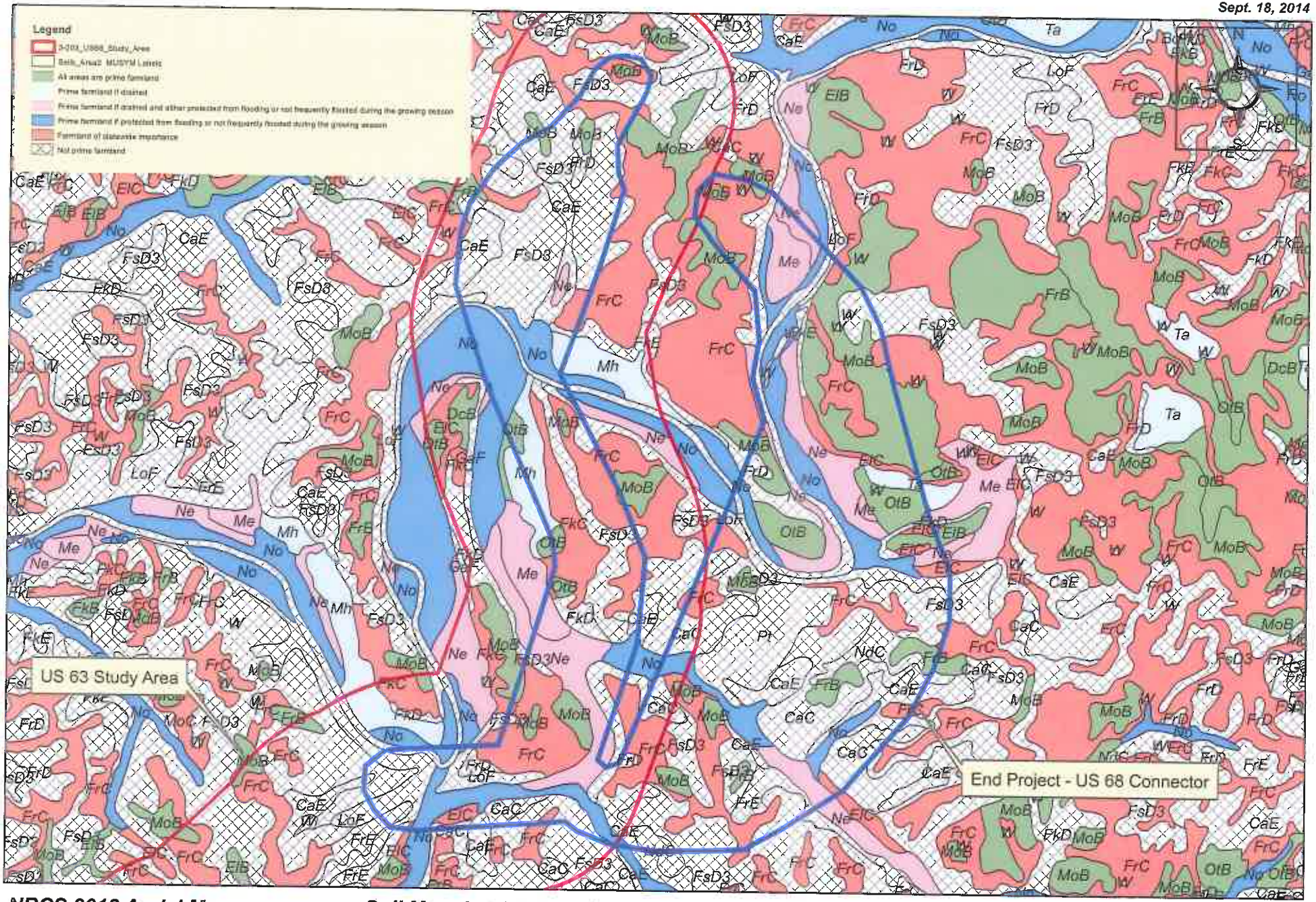
NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

Scale 1:35,000

End Project - US 68 Greensburg Connector, Green Co. KY

Sept. 18, 2014



NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

Scale 1:35,000

US 68 Study Corridor and Greensburg Connector.

Green and Taylor Counties, Kentucky

Map Unit Legend:

Map Unit: Bo—Bonnie silt loam, terrace

Component: Bonnie, terrace (85%)

The Bonnie component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on terraces on valleys. The parent material consists of old fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, June. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria.

Map Unit: CaC—Caneyville silt loam, very rocky, 6 to 20 percent slopes

Component: Caneyville (85%)

The Caneyville component makes up 85 percent of the map unit. Slopes are 6 to 20 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Map Unit: CaE—Caneyville-Frederick silt loams, very rocky, 20 to 30 percent slopes

Component: Caneyville (60%)

The Caneyville component makes up 60 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Frederick (25%)

The Frederick component makes up 25 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60

inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Map Unit: CoD—Colyer variant silt loam, 12 to 30 percent slopes (rohan)

Component: Rohan (90%)

The Rohan component makes up 90 percent of the map unit. Slopes are 12 to 30 percent. This component is on hills on uplands. The parent material consists of loamy-skeletal residuum weathered from acid shale. Depth to a root restrictive layer, bedrock, lithic, is 8 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Map Unit: DAM—Dam, large

Component: Dam, large (100%)

Generated brief soil descriptions are created for major soil components. The Dam is a miscellaneous area.

Map Unit: DcB—Dickson silt loam, 2 to 6 percent slopes

Component: Dickson (85%)

The Dickson component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer, fragipan, is 24 to 30 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 22 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: ElB—Elk silt loam, 2 to 6 percent slopes

Component: Elk, rarely flooded (85%)

The Elk, rarely flooded component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is

low. This soil is rarely flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: ElC—Elk silt loam, 6 to 12 percent slopes

Component: Elk, rarely flooded (85%)

The Elk, rarely flooded component makes up 85 percent of the map unit. Slopes are 6 to 12 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: FkB—Frankstown silt loam, 2 to 6 percent slopes

Component: Frankstown (85%)

The Frankstown component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: FkC—Frankstown silt loam, 6 to 12 percent slopes

Component: Frankstown (85%)

The Frankstown component makes up 85 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: FkD—Frankstown silt loam, 12 to 20 percent slopes

Component: Frankstown (85%)

The Frankstown component makes up 85 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of fine-loamy

residuum weathered from limestone and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: FkE—Frankstown silt loam, 20 to 30 percent slopes

Component: Frankstown (85%)

The Frankstown component makes up 85 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: FrB—Frederick silt loam, 2 to 6 percent slopes

Component: Frederick (85%)

The Frederick component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: FrC—Frederick silt loam, 6 to 12 percent slopes

Component: Frederick (85%)

The Frederick component makes up 85 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: FrD—Frederick silt loam, 12 to 20 percent slopes

Component: Frederick (85%)

The Frederick component makes up 85 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: FrE—Frederick silt loam, 20 to 30 percent slopes

Component: Frederick (85%)

The Frederick component makes up 85 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: FsD3—Frederick silty clay loam, 12 to 20 percent slopes, severely eroded

Component: Frederick, severely eroded (85%)

The Frederick, severely eroded component makes up 85 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: FvE—Frederick-Nolichucky complex, 20 to 30 percent slopes

Component: Frederick (50%)

The Frederick component makes up 50 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water

saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Component: Nolichucky (30%)

The Nolichucky component makes up 30 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of fine-loamy alluvium over clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: GaF—Garmon-Shelocta complex, 25 to 60 percent slope

Component: Garmon (55%)

The Garmon component makes up 55 percent of the map unit. Slopes are 25 to 60 percent. This component is on hills on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Shelocta (35%)

The Shelocta component makes up 35 percent of the map unit. Slopes are 25 to 60 percent. This component is on hills on uplands. The parent material consists of fine-loamy colluvium derived from sandstone and siltstone and/or shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit: LoF—Lowell-Caneyville silt loams, very rocky, 30 to 60 percent slopes

Component: Lowell (55%)

The Lowell component makes up 55 percent of the map unit. Slopes are 30 to 60 percent. This component is on hills on uplands. The parent material consists of fine-silty colluvium over clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface

horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent.

Component: Caneyville (35%)

The Caneyville component makes up 35 percent of the map unit. Slopes are 30 to 60 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map Unit: Me—Melvin silt loam

Component: Melvin, occasionally flooded (90%)

The Melvin, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of mixed fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Map Unit: MgB—Monongahela silt loam, 2 to 6 percent slopes

Component: Monongahela (85%)

The Monongahela component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on alluvial fans on valleys. The parent material consists of fine-loamy colluvium over residuum weathered from acid shale. Depth to a root restrictive layer, fragipan, is 24 to 30 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: Mh—Morehead silt loam

Component: Morehead, rarely flooded (85%)

The Morehead, rarely flooded component makes up 85 percent of the map unit. Slopes are 0 to 4 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most

restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 10 inches during January, February, March, April. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: MoB—Mountview silt loam, 2 to 6 percent slopes

Component: Mountview (85%)

The Mountview component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: MoC—Mountview silt loam, 6 to 12 percent slopes

Component: Mountview (85%)

The Mountview component makes up 85 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: NdC—Needmore silty clay, 6 to 12 percent slopes, severely eroded

Component: Needmore (90%)

The Needmore component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from calcareous shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 39 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: Ne—Newark silt loam

Component: Newark, occasionally flooded (90%)

The Newark, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of mixed fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: NhD—Nolichucky loam, 12 to 20 percent slopes

Component: Nolichucky (85%)

The Nolichucky component makes up 85 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of fine-loamy alluvium over clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: No—Nolin silt loam

Component: Nolin, occasionally flooded (85%)

The Nolin, occasionally flooded component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of mixed fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 54 inches during February, March. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: OtA—Otwell silt loam, 0 to 2 percent slopes

Component: Otwell (85%)

The Otwell component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium. Depth to a root restrictive layer, fragipan, is 20 to 30 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 19 inches during

January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: OtB—Otwell silt loam, 2 to 6 percent slopes

Component: Otwell (85%)

The Otwell component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium. Depth to a root restrictive layer, fragipan, is 20 to 30 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 19 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: Pt—Pits

Component: Pits (100%)

Map Unit: ReC—Riney loam, 6 to 12 percent slopes

Component: Riney (90%)

The Riney component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of fine-loamy residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, paralithic, is 48 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: ReD—Riney loam, 12 to 20 percent slopes

Component: Riney (90%)

The Riney component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of fine-loamy residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, paralithic, is 48 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: Se—Sensabaugh gravelly silt loam

Component: Sensabaugh, occasionally flooded (90%)

The Sensabaugh, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of mixed fine-loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: ShB—Shelocta silt loam, 2 to 6 percent slopes

Component: Shelocta (90%)

The Shelocta component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on hills on uplands. The parent material consists of fine-loamy colluvium derived from sandstone and siltstone and/or shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: ShC—Shelocta silt loam, 6 to 12 percent slopes

Component: Shelocta (85%)

The Shelocta component makes up 85 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills on uplands. The parent material consists of fine-loamy colluvium derived from sandstone and siltstone and/or shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: SlD—Shelocta-Lenberg complex, 12 to 30 percent slopes

Component: Shelocta (60%)

The Shelocta component makes up 60 percent of the map unit. Slopes are 12 to 30 percent. This component is on hills on uplands. The parent material consists of fine-loamy colluvium derived from sandstone and siltstone and/or shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no

zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Component: Lenberg (30%)

The Lenberg component makes up 30 percent of the map unit. Slopes are 12 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from clayey shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: Ta—Taft silt loam

Component: Taft (90%)

The Taft component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on uplands. The parent material consists of fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer, fragipan, is 20 to 36 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Map Unit: Ty—Tyler silt loam

Component: Tyler (90%)

The Tyler component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on uplands. The parent material consists of fine-silty colluvium over clayey residuum weathered from shale. Depth to a root restrictive layer, fragipan, is 16 to 24 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Map Unit: W—Water

Component: Water (100%)

US 68 Study Corridor and Greensburg Connector.

Metcalfe County, Kentucky

Map Unit: BaB—Baxter cherty silt loam, 2 to 6 percent slopes

Component: Baxter (90%)

The Baxter component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: BaB2—Baxter cherty silt loam, 2 to 6 percent slopes, eroded

Component: Baxter (90%)

The Baxter component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: BaC—Baxter cherty silt loam, 6 to 12 percent slopes

Component: Baxter (90%)

The Baxter component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: BaC2—Baxter cherty silt loam, 6 to 12 percent slopes, eroded

Component: Baxter (90%)

The Baxter component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum

weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: BaD—Baxter cherty silt loam, 12 to 20 percent slopes

Component: Baxter (90%)

The Baxter component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: BaD2—Baxter cherty silt loam, 12 to 20 percent slopes, eroded

Component: Baxter (90%)

The Baxter component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: BaE—Baxter cherty silt loam, 20 to 30 percent slopes

Component: Baxter (90%)

The Baxter component makes up 90 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: BaE2—Baxter cherty silt loam, 20 to 30 percent slopes, eroded

Component: Baxter (90%)

The Baxter component makes up 90 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: BcC3—Baxter cherty silty clay loam, 6 to 12 percent slopes, severely eroded

Component: Baxter, severely eroded (90%)

The Baxter, severely eroded component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: BcD3—Baxter cherty silty clay loam, 12 to 20 percent slopes, severely eroded

Component: Baxter, severely eroded (90%)

The Baxter, severely eroded component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: BcE3—Baxter cherty silty clay loam, 20 to 30 percent slopes, severely eroded

Component: Baxter, severely eroded (90%)

The Baxter, severely eroded component makes up 90 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded.

There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit: BeC2—Baxter-Talbott rocky silt loams, 6 to 12 percent slopes, eroded (baxter, caneyville rocky)

Component: Baxter (50%)

The Baxter component makes up 50 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Caneyville, rocky (30%)

The Caneyville, rocky component makes up 30 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Map Unit: BeD2—Baxter-Talbott rocky silt loams, 12 to 20 percent slopes, eroded (baxter, caneyville rocky)

Component: Baxter (50%)

The Baxter component makes up 50 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Component: Caneyville, rocky (30%)

The Caneyville, rocky component makes up 30 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-

swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Map Unit: BeE2—Baxter-Talbott rocky silt loams, 20 to 30 percent slopes, eroded (baxter, caneyville rocky)

Component: Baxter (50%)

The Baxter component makes up 50 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Component: Caneyville, rocky (30%)

The Caneyville, rocky component makes up 30 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map Unit: BfD3—Baxter-Talbott rocky silty clay loams, 12 to 20 percent slopes, severely eroded (baxter, caneyville rocky)

Component: Baxter, severely eroded (50%)

The Baxter, severely eroded component makes up 50 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Component: Caneyville, rocky, severely eroded (30%)

The Caneyville, rocky, severely eroded component makes up 30 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water

movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map Unit: BoD—Bodine cherty silt loam, 12 to 20 percent slopes

Component: Bodine (90%)

The Bodine component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of loamy-skeletal colluvium derived from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Map Unit: BoE—Bodine cherty silt loam, 20 to 35 percent slopes

Component: Bodine (90%)

The Bodine component makes up 90 percent of the map unit. Slopes are 20 to 35 percent. This component is on hills on uplands. The parent material consists of loamy-skeletal colluvium derived from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map Unit: CaE—Caneyville rocky complex, 20 to 30 percent slopes

Component: Caneyville, rocky (86%)

The Caneyville, rocky component makes up 86 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map Unit: CaE3—Caneyville rocky complex, 20 to 30 percent slopes, severely eroded

Component: Caneyville, rocky, severely eroded (86%)

The Caneyville, rocky, severely eroded component makes up 86 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map Unit: CaF—Caneyville rocky complex, 30 to 50 percent slopes

Component: Caneyville, rocky (86%)

The Caneyville, rocky component makes up 86 percent of the map unit. Slopes are 30 to 50 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map Unit: CbA—Captina silt loam, 0 to 2 percent slopes

Component: Captina (90%)

The Captina component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer, fragipan, is 22 to 27 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 22 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: CbB—Captina silt loam, 2 to 6 percent slopes

Component: Captina (90%)

The Captina component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer, fragipan, is 22 to 27 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not

ponded. A seasonal zone of water saturation is at 22 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: CcD3—Christian clay loam, 6 to 20 percent slopes, severely eroded

Component: Christian, severely eroded (90%)

The Christian, severely eroded component makes up 90 percent of the map unit. Slopes are 6 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: CdB—Christian loam, 2 to 6 percent slopes

Component: Christian (90%)

The Christian component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: CdC—Christian loam, 6 to 12 percent slopes

Component: Christian (90%)

The Christian component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: CdC2—Christian loam, 6 to 12 percent slopes, eroded

Component: Christian (90%)

The Christian component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: CdD2—Christian loam, 12 to 20 percent slopes, eroded

Component: Christian (90%)

The Christian component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: CeD—Christian rocky soils, 12 to 20 percent slopes (caneyville rocky)

Component: Caneyville, rocky (90%)

The Caneyville, rocky component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Map Unit: CkB—Clarksville cherty silt loam, 2 to 6 percent slopes

Component: Clarksville (90%)

The Clarksville component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of loamy-skeletal colluvium derived from cherty limestone over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not

flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: CkC—Clarksville cherty silt loam, 6 to 12 percent slopes

Component: Clarksville (90%)

The Clarksville component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of loamy-skeletal colluvium derived from cherty limestone over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: CkC2—Clarksville cherty silt loam, 6 to 12 percent slopes, eroded

Component: Clarksville (90%)

The Clarksville component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of loamy-skeletal colluvium derived from cherty limestone over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: CkD2—Clarksville cherty silt loam, 12 to 20 percent slopes, eroded

Component: Clarksville (90%)

The Clarksville component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of loamy-skeletal colluvium derived from cherty limestone over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: CkE2—Clarksville cherty silt loam, 20 to 30 percent slopes, eroded

Component: Clarksville (90%)

The Clarksville component makes up 90 percent of the map unit. Slopes are 20 to 30 percent. This component is on hills on uplands. The parent material consists of loamy-skeletal colluvium derived from cherty limestone over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: CrB—Crider silt loam, 2 to 6 percent slopes

Component: Crider (90%)

The Crider component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: CrB2—Crider silt loam, 2 to 6 percent slopes, eroded

Component: Crider (90%)

The Crider component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: CrC2—Crider silt loam, 6 to 12 percent slopes, eroded

Component: Crider (90%)

The Crider component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There

is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: CuB—Cumberland cherty silt loam, 2 to 6 percent slopes (frederick)

Component: Frederick (90%)

The Frederick component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: CuB2—Cumberland cherty silt loam, 2 to 6 percent slopes, eroded (frederick)

Component: Frederick (90%)

The Frederick component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: CuC2—Cumberland cherty silt loam, 6 to 12 percent slopes, eroded (frederick)

Component: Frederick (90%)

The Frederick component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: CuD2—Cumberland cherty silt loam 12 to 20 percent slopes, eroded (frederick)

Component: Frederick (90%)

The Frederick component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: CvD3—Cumberland cherty silty clay, 12 to 20 percent slopes, severely eroded (frederick)

Component: Frederick, severely eroded (90%)

The Frederick, severely eroded component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: DaD—Dandridge and Westmoreland shaly silt loams, 12 to 20 percent slopes (dandridge, garmon)

Component: Dandridge (45%)

The Dandridge component makes up 45 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey-skeletal residuum weathered from calcareous shale and/or limestone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Component: Garmon (45%)

The Garmon component makes up 45 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone and/or calcareous shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface

horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map Unit: DaF—Dandridge and Westmoreland shaly silt loams, 20 to 50 percent slopes (dandridge, garmon)

Component: Dandridge (45%)

The Dandridge component makes up 45 percent of the map unit. Slopes are 20 to 50 percent. This component is on hills on uplands. The parent material consists of clayey-skeletal residuum weathered from calcareous shale and/or limestone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Garmon (45%)

The Garmon component makes up 45 percent of the map unit. Slopes are 20 to 50 percent. This component is on hills on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone and/or calcareous shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit: DbD3—Dandridge and Westmoreland shaly silty clay loams, 12 to 20 percent slopes, severely eroded (dandridge, garmon)

Component: Dandridge, severely eroded (45%)

The Dandridge, severely eroded component makes up 45 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey-skeletal residuum weathered from calcareous shale and/or limestone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Garmon, severely eroded (45%)

The Garmon, severely eroded component makes up 45 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone and/or calcareous shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not

ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit: DbF3—Dandridge and Westmoreland shaly silty clay loams, 20 to 50 percent slopes, severely eroded (dandridge, garmon)

Component: Dandridge, severely eroded (45%)

The Dandridge, severely eroded component makes up 45 percent of the map unit. Slopes are 20 to 50 percent. This component is on hills on uplands. The parent material consists of clayey-skeletal residuum weathered from calcareous shale and/or limestone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Garmon, severely eroded (45%)

The Garmon, severely eroded component makes up 45 percent of the map unit. Slopes are 20 to 50 percent. This component is on hills on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone and/or calcareous shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit: DcB—Dandridge and Westmoreland silt loams, 2 to 6 percent slopes (dandridge, garmon)

Component: Dandridge (45%)

The Dandridge component makes up 45 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of clayey-skeletal residuum weathered from calcareous shale and/or limestone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Garmon (45%)

The Garmon component makes up 45 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone and/or calcareous shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of

60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: DcC—Dandridge and Westmoreland silt loams, 6 to 12 percent slopes (dandridge, garmon)

Component: Dandridge (45%)

The Dandridge component makes up 45 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey-skeletal residuum weathered from calcareous shale and/or limestone. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Garmon (45%)

The Garmon component makes up 45 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills on uplands. The parent material consists of fine-loamy residuum weathered from limestone and siltstone and/or calcareous shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: DeB—Dewey silt loam, 2 to 6 percent slopes

Component: Dewey (90%)

The Dewey component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: DeC2—Dewey silt loam, 6 to 12 percent slopes, eroded

Component: Dewey (90%)

The Dewey component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum

weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: DeD2—Dewey silt loam, 12 to 20 percent slopes, eroded

Component: Dewey (90%)

The Dewey component makes up 90 percent of the map unit. Slopes are 12 to 20 percent. This component is on hills on uplands. The parent material consists of clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: DkA—Dickson silt loam, 0 to 2 percent slopes

Component: Dickson (90%)

The Dickson component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer, fragipan, is 20 to 26 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 20 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: DkB—Dickson silt loam, 2 to 6 percent slopes

Component: Dickson (90%)

The Dickson component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer, fragipan, is 20 to 26 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 20 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: DkB2—Dickson silt loam, 2 to 6 percent slopes, eroded

Component: Dickson (90%)

The Dickson component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer, fragipan, is 19 to 25 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 19 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: DkC2—Dickson silt loam, 6 to 12 percent slopes, eroded

Component: Dickson (90%)

The Dickson component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer, fragipan, is 19 to 25 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 19 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: EkB—Elk silt loam, 2 to 6 percent slopes

Component: Elk, occasionally flooded (90%)

The Elk, occasionally flooded component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium derived from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: Gu—Gullied land

Component: Gullied land (100%)

Map Unit: HcB—Humphreys cherty silt loam, 2 to 6 percent slopes

Component: Humphreys, rarely flooded (90%)

The Humphreys, rarely flooded component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on stream terraces on valleys. The parent material consists of fine-loamy alluvium and/or colluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 66 inches during January, February, March, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: HcC—Humphreys cherty silt loam, 6 to 12 percent slopes

Component: Humphreys (90%)

The Humphreys component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on stream terraces on valleys. The parent material consists of fine-loamy alluvium and/or colluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 66 inches during January, February, March, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: HcC2—Humphreys cherty silt loam, 6 to 12 percent slopes, eroded

Component: Humphreys (90%)

The Humphreys component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on stream terraces on valleys. The parent material consists of fine-loamy alluvium and/or colluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 66 inches during January, February, March, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: Hg—Huntington gravelly silt loam (sensabaugh)

Component: Sensabaugh, occasionally flooded (90%)

The Sensabaugh, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of fine-loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation

is at 60 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: Hu—Huntington silt loam

Component: Huntington, occasionally flooded (90%)

The Huntington, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of fine-silty alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: LaC2—Landisburg cherty silt loam, 6 to 12 percent slopes, eroded (tarklin)

Component: Tarklin (90%)

The Tarklin component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on stream terraces on valleys. The parent material consists of fine-loamy alluvium and/or colluvium derived from cherty limestone. Depth to a root restrictive layer, fragipan, is 16 to 24 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 16 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: LdB—Landisburg silt loam, 2 to 6 percent slopes (captina)

Component: Captina (90%)

The Captina component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer, fragipan, is 20 to 28 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: LdC2—Landisburg silt loam, 6 to 12 percent slopes, eroded (captina)

Component: Captina (90%)

The Captina component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer, fragipan, is 16 to 23 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: Ls—Lindside silt loam

Component: Lindside, occasionally flooded (90%)

The Lindside, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of fine-silty alluvium derived from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 27 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: Me—Melvin silt loam

Component: Melvin, occasionally flooded (90%)

The Melvin, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of fine-silty alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Map Unit: MoB—Mountview silt loam, 2 to 6 percent slopes

Component: Mountview (90%)

The Mountview component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There

is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: MoC2—Mountview silt loam, 6 to 12 percent slopes, eroded

Component: Mountview (90%)

The Mountview component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from cherty limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: MuC—Muse silt loam, 6 to 12 percent slopes

Component: Muse (90%)

The Muse component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey colluvium and/or residuum weathered from acid shale. Depth to a root restrictive layer, bedrock, paralithic, is 39 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 48 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: Nk—Newark silt loam

Component: Newark, occasionally flooded (95%)

The Newark, occasionally flooded component makes up 95 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of fine-silty alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: PmB—Pembroke silt loam, 2 to 6 percent slopes

Component: Pembroke (90%)

The Pembroke component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: PmC2—Pembroke silt loam, 6 to 12 percent slopes, eroded

Component: Pembroke (90%)

The Pembroke component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of thin fine-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: Pt—Pits, quarries

Component: Pits, quarry (100%)

Map Unit: RaC—Renox silt loam, 6 to 12 percent slopes

Component: Renox (90%)

The Renox component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on alluvial fans on valleys. The parent material consists of fine-loamy alluvium and/or colluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: Rb—Robertsville silt loam

Component: Robertsville, occasionally flooded (90%)

The Robertsville, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer, fragipan, is 11 to 17 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Map Unit: Rf—Robinsonville fine sandy loam

Component: Robinsonville, occasionally flooded (90%)

The Robinsonville, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on valleys. The parent material consists of coarse-loamy alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: Rk—Rock land (rock outcrop)

Component: Rock outcrop (100%)

Map Unit: SaA—Sango silt loam, 0 to 2 percent slopes

Component: Sango (90%)

The Sango component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on uplands. The parent material consists of thin coarse-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer, fragipan, is 16 to 24 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 17 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit: SaB—Sango silt loam, 2 to 6 percent slopes

Component: Sango (90%)

The Sango component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on ridges on uplands. The parent material consists of coarse-silty noncalcareous loess over clayey residuum weathered from limestone. Depth to a root restrictive layer, fragipan, is 20 to 26 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: Ta—Taft silt loam

Component: Taft (90%)

The Taft component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces on valleys. The parent material consists of old fine-silty alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer, fragipan, is 14 to 20 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 14 inches during January, February, March, April. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria.

Map Unit: TbC—Talbott silt loam, 6 to 12 percent slopes (caneyville rocky)

Component: Caneyville, rocky (90%)

The Caneyville, rocky component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: TcC2—Talbott silty clay loam, 6 to 12 percent slopes, eroded (caneyville rocky)

Component: Caneyville, rocky (90%)

The Caneyville, rocky component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on ridges on uplands. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of

water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit: W—Water

Component: Water (100%)

Description – Map Unit Description (Brief, Generated)

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Prime and other Important Farmlands

This table lists the map units in the survey area that are considered important farmlands. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

For some of the soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

In some areas that are not identified as having national or statewide importance, land is considered to be *farmland of local importance* for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

Report—Prime and other Important Farmlands

Prime and other Important Farmlands--Metcalfe County, Kentucky		
Map Symbol	**Map Unit Name**	**Farmland Classification**
BaB	Baxter cherty silt loam, 2 to 6 percent slopes	All areas are prime farmland
BaB2	Baxter cherty silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
BaC	Baxter cherty silt loam, 6 to 12 percent slopes	Farmland of statewide importance
BaC2	Baxter cherty silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
BaD	Baxter cherty silt loam, 12 to 20 percent slopes	Not prime farmland
BaD2	Baxter cherty silt loam, 12 to 20 percent slopes, eroded	Not prime farmland
BaE	Baxter cherty silt loam, 20 to 30 percent slopes	Not prime farmland
BaE2	Baxter cherty silt loam, 20 to 30 percent slopes, eroded	Not prime farmland
BcC3	Baxter cherty silty clay loam, 6 to 12 percent slopes, severely eroded	Not prime farmland
BcD3	Baxter cherty silty clay loam, 12 to 20 percent slopes, severely eroded	Not prime farmland
BcE3	Baxter cherty silty clay loam, 20 to 30 percent slopes, severely eroded	Not prime farmland
BeC2	Baxter-Talbott rocky silt loams, 6 to 12 percent slopes, eroded (baxter, caneyville rocky)	Not prime farmland
BeD2	Baxter-Talbott rocky silt loams, 12 to 20 percent slopes, eroded (baxter, caneyville rocky)	Not prime farmland
BeE2	Baxter-Talbott rocky silt loams, 20 to 30 percent slopes, eroded (baxter, caneyville rocky)	Not prime farmland
BfD3	Baxter-Talbott rocky silty clay loams, 12 to 20 percent slopes, severely eroded (baxter, caneyville rocky)	Not prime farmland
BoD	Bodine cherty silt loam, 12 to 20 percent slopes	Not prime farmland
BoE	Bodine cherty silt loam, 20 to 35 percent slopes	Not prime farmland
CaE	Caneyville rocky complex, 20 to 30 percent slopes	Not prime farmland

Prime and other Important Farmlands--Metcalfe County, Kentucky		
Map Symbol	Map Unit Name	Farmland Classification
CaE3	Caneyville rocky complex, 20 to 30 percent slopes, severely eroded	Not prime farmland
CaF	Caneyville rocky complex, 30 to 50 percent slopes	Not prime farmland
CbA	Captina silt loam, 0 to 2 percent slopes	All areas are prime farmland
CbB	Captina silt loam, 2 to 6 percent slopes	All areas are prime farmland
CcD3	Christian clay loam, 6 to 20 percent slopes, severely eroded	Not prime farmland
CdB	Christian loam, 2 to 6 percent slopes	All areas are prime farmland
CdC	Christian loam, 6 to 12 percent slopes	Farmland of statewide importance
CdC2	Christian loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
CdD2	Christian loam, 12 to 20 percent slopes, eroded	Not prime farmland
CeD	Christian rocky soils, 12 to 20 percent slopes (caneyville rocky)	Not prime farmland
CkB	Clarksville cherty silt loam, 2 to 6 percent slopes	All areas are prime farmland
CkC	Clarksville cherty silt loam, 6 to 12 percent slopes	Farmland of statewide importance
CkC2	Clarksville cherty silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
CkD2	Clarksville cherty silt loam, 12 to 20 percent slopes, eroded	Not prime farmland
CkE2	Clarksville cherty silt loam, 20 to 30 percent slopes, eroded	Not prime farmland
CrB	Crider silt loam, 2 to 6 percent slopes	All areas are prime farmland
CrB2	Crider silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
CrC2	Crider silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
CuB	Cumberland cherty silt loam, 2 to 6 percent slopes (frederick)	All areas are prime farmland
CuB2	Cumberland cherty silt loam, 2 to 6 percent slopes, eroded (frederick)	All areas are prime farmland
CuC2	Cumberland cherty silt loam, 6 to 12 percent slopes, eroded (frederick)	Farmland of statewide importance
CuD2	Cumberland cherty silt loam 12 to 20 percent slopes, eroded (frederick)	Not prime farmland
CvD3	Cumberland cherty silty clay, 12 to 20 percent slopes, severely eroded (frederick)	Not prime farmland
DaD	Dandridge and Westmoreland shaly silt loams, 12 to 20 percent slopes (dandridge, garmon)	Not prime farmland
DaF	Dandridge and Westmoreland shaly silt loams, 20 to 50 percent slopes (dandridge, garmon)	Not prime farmland
DbD3	Dandridge and Westmoreland shaly silty clay loams, 12 to 20 percent slopes, severely eroded (dandridge, garmon)	Not prime farmland
DbF3	Dandridge and Westmoreland shaly silty clay loams, 20 to 50 percent slopes, severely eroded (dandridge, garmon)	Not prime farmland
DcB	Dandridge and Westmoreland silt loams, 2 to 6 percent slopes (dandridge, garmon)	Not prime farmland
DcC	Dandridge and Westmoreland silt loams, 6 to 12 percent slopes (dandridge, garmon)	Not prime farmland
DeB	Dewey silt loam, 2 to 6 percent slopes	All areas are prime farmland
DeC2	Dewey silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance

Prime and other Important Farmlands--Metcalfe County, Kentucky		
Map Symbol	Map Unit Name	Farmland Classification
DeD2	Dewey silt loam, 12 to 20 percent slopes, eroded	Not prime farmland
DkA	Dickson silt loam, 0 to 2 percent slopes	All areas are prime farmland
DkB	Dickson silt loam, 2 to 6 percent slopes	All areas are prime farmland
DkB2	Dickson silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
DkC2	Dickson silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
EkB	Elk silt loam, 2 to 6 percent slopes	All areas are prime farmland
Gu	Gullied land	Not prime farmland
HcB	Humphreys cherty silt loam, 2 to 6 percent slopes	All areas are prime farmland
HcC	Humphreys cherty silt loam, 6 to 12 percent slopes	Farmland of statewide importance
HcC2	Humphreys cherty silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
Hg	Huntington gravelly silt loam (sensabaugh)	All areas are prime farmland
Hu	Huntington silt loam	All areas are prime farmland
LaC2	Landisburg cherty silt loam, 6 to 12 percent slopes, eroded (tarklin)	Farmland of statewide importance
LdB	Landisburg silt loam, 2 to 6 percent slopes (captina)	All areas are prime farmland
LdC2	Landisburg silt loam, 6 to 12 percent slopes, eroded (captina)	Farmland of statewide importance
Ls	Lindside silt loam	All areas are prime farmland
Me	Melvin silt loam	Prime farmland if drained
MoB	Mountview silt loam, 2 to 6 percent slopes	All areas are prime farmland
MoC2	Mountview silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
MuC	Muse silt loam, 6 to 12 percent slopes	Farmland of statewide importance
Nk	Newark silt loam	Prime farmland if drained
PmB	Pembroke silt loam, 2 to 6 percent slopes	All areas are prime farmland
PmC2	Pembroke silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
Pt	Pits, quarries	Not prime farmland
RaC	Renox silt loam, 6 to 12 percent slopes	Farmland of statewide importance
Rb	Robertsville silt loam	Prime farmland if drained
Rf	Robinsonville fine sandy loam	All areas are prime farmland
Rk	Rock land (rock outcrop)	Not prime farmland
SaA	Sango silt loam, 0 to 2 percent slopes	All areas are prime farmland
SaB	Sango silt loam, 2 to 6 percent slopes	All areas are prime farmland
Ta	Taft silt loam	Prime farmland if drained
TbC	Talbott silt loam, 6 to 12 percent slopes (caneyville rocky)	Farmland of statewide importance
TcC2	Talbott silty clay loam, 6 to 12 percent slopes, eroded (caneyville rocky)	Farmland of statewide importance
W	Water	Not prime farmland

Data Source Information

Soil Survey Area: Metcalfe County, Kentucky
Survey Area Data: Version 9, Dec 16, 2013

Prime and other Important Farmlands

This table lists the map units in the survey area that are considered important farmlands. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

For some of the soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

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Report—Prime and other Important Farmlands

Prime and other Important Farmlands–Green and Taylor Counties, Kentucky		
Map Symbol	**Map Unit Name**	**Farmland Classification**
Bo	Bonnie silt loam, terrace	Prime farmland if drained
CaC	Caneyville silt loam, very rocky, 6 to 20 percent slopes	Not prime farmland
CaE	Caneyville-Frederick silt loams, very rocky, 20 to 30 percent slopes	Not prime farmland
CoD	Colyer variant silt loam, 12 to 30 percent slopes (rohan)	Not prime farmland
DAM	Dam, large	Not prime farmland
DcB	Dickson silt loam, 2 to 6 percent slopes	All areas are prime farmland
ElB	Elk silt loam, 2 to 6 percent slopes	All areas are prime farmland
ElC	Elk silt loam, 6 to 12 percent slopes	Farmland of statewide importance
FkB	Frankstown silt loam, 2 to 6 percent slopes	All areas are prime farmland
FkC	Frankstown silt loam, 6 to 12 percent slopes	Farmland of statewide importance
FkD	Frankstown silt loam, 12 to 20 percent slopes	Not prime farmland
FkE	Frankstown silt loam, 20 to 30 percent slopes	Not prime farmland
FrB	Frederick silt loam, 2 to 6 percent slopes	All areas are prime farmland
FrC	Frederick silt loam, 6 to 12 percent slopes	Farmland of statewide importance
FrD	Frederick silt loam, 12 to 20 percent slopes	Not prime farmland
FrE	Frederick silt loam, 20 to 30 percent slopes	Not prime farmland
FsD3	Frederick silty clay loam, 12 to 20 percent slopes, severely eroded	Not prime farmland
FvE	Frederick-Nolichucky complex, 20 to 30 percent slopes	Not prime farmland
GaF	Garmon-Shelocta complex, 25 to 60 percent slope	Not prime farmland
LoF	Lowell-Caneyville silt loams, very rocky, 30 to 60 percent slopes	Not prime farmland
Me	Melvin silt loam	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Prime and other Important Farmlands–Green and Taylor Counties, Kentucky		
Map Symbol	Map Unit Name	Farmland Classification
MgB	Monongahela silt loam, 2 to 6 percent slopes	All areas are prime farmland
Mh	Morehead silt loam	Prime farmland if drained
MoB	Mountview silt loam, 2 to 6 percent slopes	All areas are prime farmland
MoC	Mountview silt loam, 6 to 12 percent slopes	Farmland of statewide importance
NdC	Needmore silty clay, 6 to 12 percent slopes, severely eroded	Not prime farmland
Ne	Newark silt loam	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
NhD	Nolichucky loam, 12 to 20 percent slopes	Not prime farmland
No	Nolin silt loam	Prime farmland if protected from flooding or not frequently flooded during the growing season
OtA	Otwell silt loam, 0 to 2 percent slopes	All areas are prime farmland
OtB	Otwell silt loam, 2 to 6 percent slopes	All areas are prime farmland
Pt	Pits	Not prime farmland
ReC	Riney loam, 6 to 12 percent slopes	Farmland of statewide importance
ReD	Riney loam, 12 to 20 percent slopes	Not prime farmland
Se	Sensabaugh gravelly silt loam	All areas are prime farmland
ShB	Shelocta silt loam, 2 to 6 percent slopes	All areas are prime farmland
ShC	Shelocta silt loam, 6 to 12 percent slopes	Farmland of statewide importance
SlD	Shelocta-Lenberg complex, 12 to 30 percent slopes	Not prime farmland
Ta	Taft silt loam	Prime farmland if drained
Ty	Tyler silt loam	Prime farmland if drained
W	Water	Not prime farmland

Data Source Information

Soil Survey Area: Green and Taylor Counties, Kentucky
Survey Area Data: Version 10, Dec 16, 2013

received
8-28-14

TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

August 19, 2014

Ms. Karen Woodrich
U.S. Dept. of Agriculture, Natural Resources Conservation Service
771 Corporate Drive, Suite 210
Lexington KY 40503

Dear Ms. Woodrich:

Subject: US 68 Scoping Study
From Cumberland Parkway to KY 61/KY 3535 (Industrial Park Road) intersection in Greensburg
Metcalfe and Green County
Item No. 3-203.00

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 (KYTC) has assembled a study team to evaluate improvements along US 68 within the limits mentioned above. The planning study has two parts: US 68 Corridor project and US 68 Greensburg Connector project.

The US 68 Corridor project evaluated a series of spot improvements along the US 68 Corridor from the new interchange with the Cumberland Parkway in Edmonton to south of the intersection with KY 61 south of Greensburg. The US 68 Greensburg Connector project evaluated improvements to US 68 through Greensburg and investigated alternative traffic movement between US 68 south of Greensburg (near Vaughn curve) and KY 3535 (Industrial Park Road).

We ask that you identify specific issues or concerns of your agency that could affect the development of the project. You may send your responses by mail or complete an electronic questionnaire available at: https://www.surveymonkey.com/s/US68Study.

The planning study includes 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 potentially minimize negative impacts on alternatives as we move forward. In particular, we are asking that you provide the following information:

2 counties
24 miles of road US 68
> 18,000 acres.

- Comments on the project goals or purpose and need for the project,
- Significant issues or concerns in the project area that may need to be addressed so that the project can be adequately scoped,
- Any conservation or development plans your agency or organization has ongoing or is aware of in the project area,
- Locations of any known areas, issues, or resources within the project area that should be considered when developing alternatives so that the impacts can be minimized, mitigated, or avoided early in the process, and
- Any mitigation strategies that should be considered in the development of the project.

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.

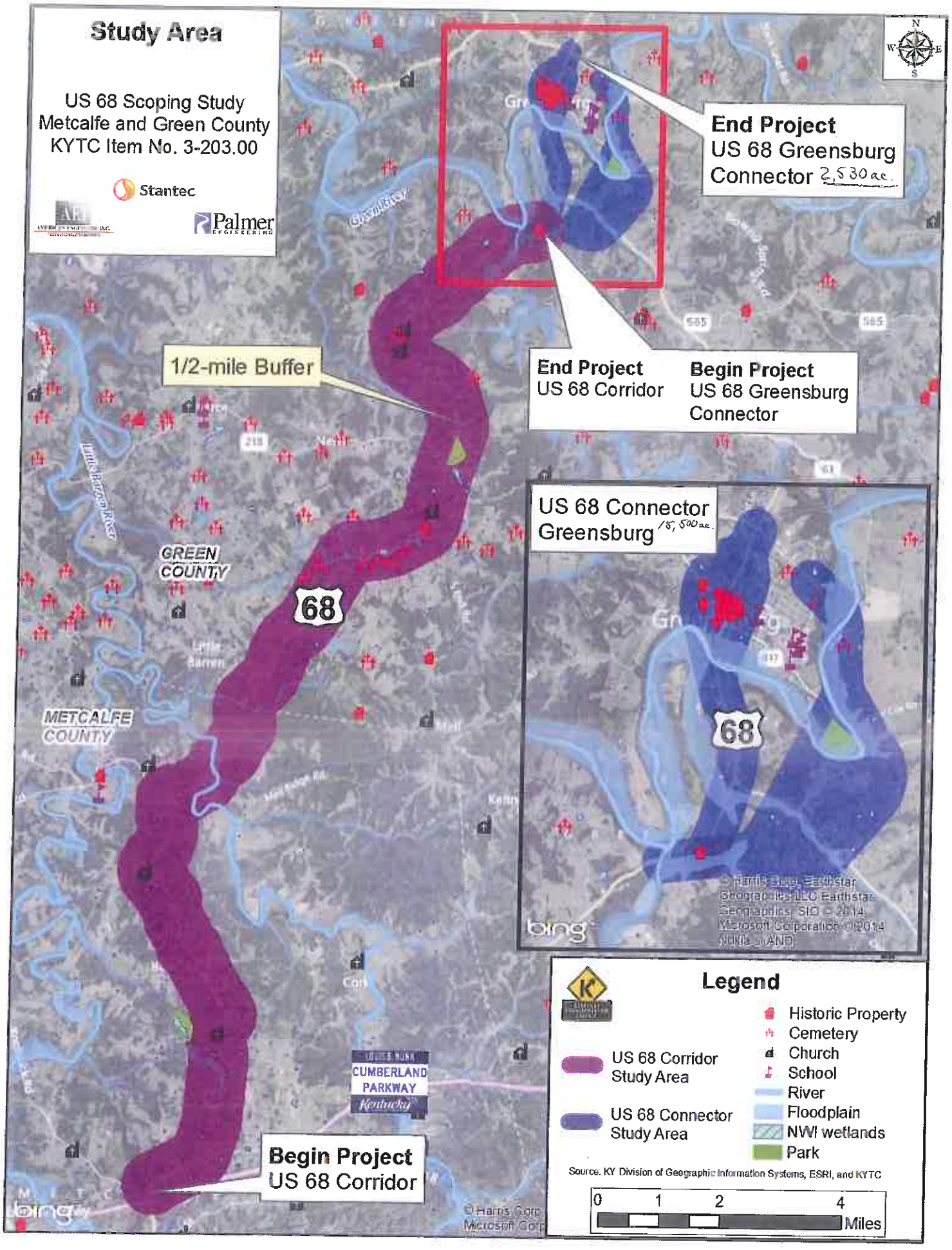
Other Transportation Cabinet offices or consultants working on behalf of the Transportation Cabinet may also contact you seeking more detailed data or information to assist them in completing their environmental studies for this phase of the project.

We have enclosed the following project information for your review and comment:

- Study Area
- Draft Purpose and Need Statements
- US 68 Highway Characteristics Summary
- US 68 Crash History and Curvature
- US 68 Corridor Spot Improvements
- US 68 Greensburg Connector Alternatives

Additional project information (including Draft Environmental Overview) is available at the KYTC's Your Turn website at: http://transportation.ky.gov/YourTurn/Pages/US-68-Scoping-Study-main.aspx. We respectfully ask that you provide us with your comments by September 30, 2014, to ensure timely progress in this planning effort.

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Srinivasa (Sreenu) Gutti of the Division of Planning at 502-782-5056 or by email at Srinivasa.gutti@ky.gov.


Study Area
US 68 Scoping Study
Metcalfe and Green County
KYTC Item No. 3-203.00
Stantec
Palmer
End Project
US 68 Greensburg
Connector 2,530 ac.
1/2-mile Buffer
End Project
US 68 Corridor
Begin Project
US 68 Greensburg
Connector
US 68 Connector
Greensburg 15,500 ac.
GREEN
COUNTY
METCALFE
COUNTY
68
CUMBERLAND
PARKWAY
Kentucky
Begin Project
US 68 Corridor
Legend
US 68 Corridor
Study Area
US 68 Connector
Study Area
Historic Property
Cemetery
Church
School
River
Floodplain
NWI wetlands
Park
Source: KY Division of Geographic Information Systems, ESRI, and KYTC
0 1 2 4
Miles

US 68 Scoping Study
Metcalfe and Green County
KYTC Item No. 3-203.00

Draft Purpose and Need Statements

US 68 stretches approximately 400 miles across the state from Paducah to Maysville, Kentucky. Carrying between 900 and 9,100 vehicles per day through Metcalfe and Green counties, US 68 is a Rural Major Collector of 22 miles in length between the proposed interchange with the Cumberland (Nunn) Parkway north of Edmonton in Metcalfe County and the US 68/KY 61 intersection south of Greensburg in Green County. Through Greensburg, US 68 is a Rural Minor Arterial for 2.3 miles between the south KY 61 intersection and the north KY 61/KY 3535 (Industrial Park Road) intersection. There were 138 crashes reported in the three years between January 2011 and December 2013 along the entire 24.3 miles of US 68 under study. Past Improvements have been made to the US 68 corridor between Greensburg (through Campbellsville) and Lebanon. These have provided a safer and more reliable connection to the Bluegrass Parkway north of Lebanon and Springfield via KY 55 and KY 555.

US 68 Corridor Project

The purpose of the US 68 Corridor Project is to provide a safer, more efficient connection between the Cumberland Parkway and Greensburg by improving substandard geometrics along the corridor. The existing alignment is characterized by horizontal and vertical curvature that does not satisfy current geometric design guidelines. Over the three year period between January 2011 and December 2013, there were 67 crashes reported between the Parkway and the KY 61 intersection south of Greensburg. Of these crashes, 50 (75 percent) were single vehicle collisions. With a new interchange under construction at the Parkway, the demand for travel along the US 68 corridor is expected to increase. Addressing the substandard geometrics will extend previously implemented improvements along US 68 and provide a better connection between Greensburg, southern Green County, and northern Metcalfe County to the Cumberland Parkway.

US 68 Greensburg Connector Project

The purpose of the US 68 Greensburg Connector Project is to improve safety, connectivity, and mobility in and through Greensburg. The US 68 Corridor provides the only connection for areas east and west of Greensburg and one of only two crossings of the Green River in the area (the other being KY 417, Legion Park Road). The nearest Green River crossing upstream of Greensburg is KY 55 in Taylor County, and a detour utilizing this route around Greensburg would be approximately 35 miles in length. The nearest downstream crossing is KY 88 in Green County, which would require a detour of approximately 19 miles. Through Greensburg, US 68 currently carries as much as 9,100 vehicles per day, eight percent of which are trucks. Between January 2011 and December 2013, there were 71 crashes between the KY 61 intersection south of Greensburg and the KY 61/KY 3535 (Industrial Park Road) to the north. Providing a new or improved connection through or around Greensburg will better accommodate existing and future traffic volumes, provide a new or improved Green River crossing, and offer a better connection for regional traffic and commercial vehicles.

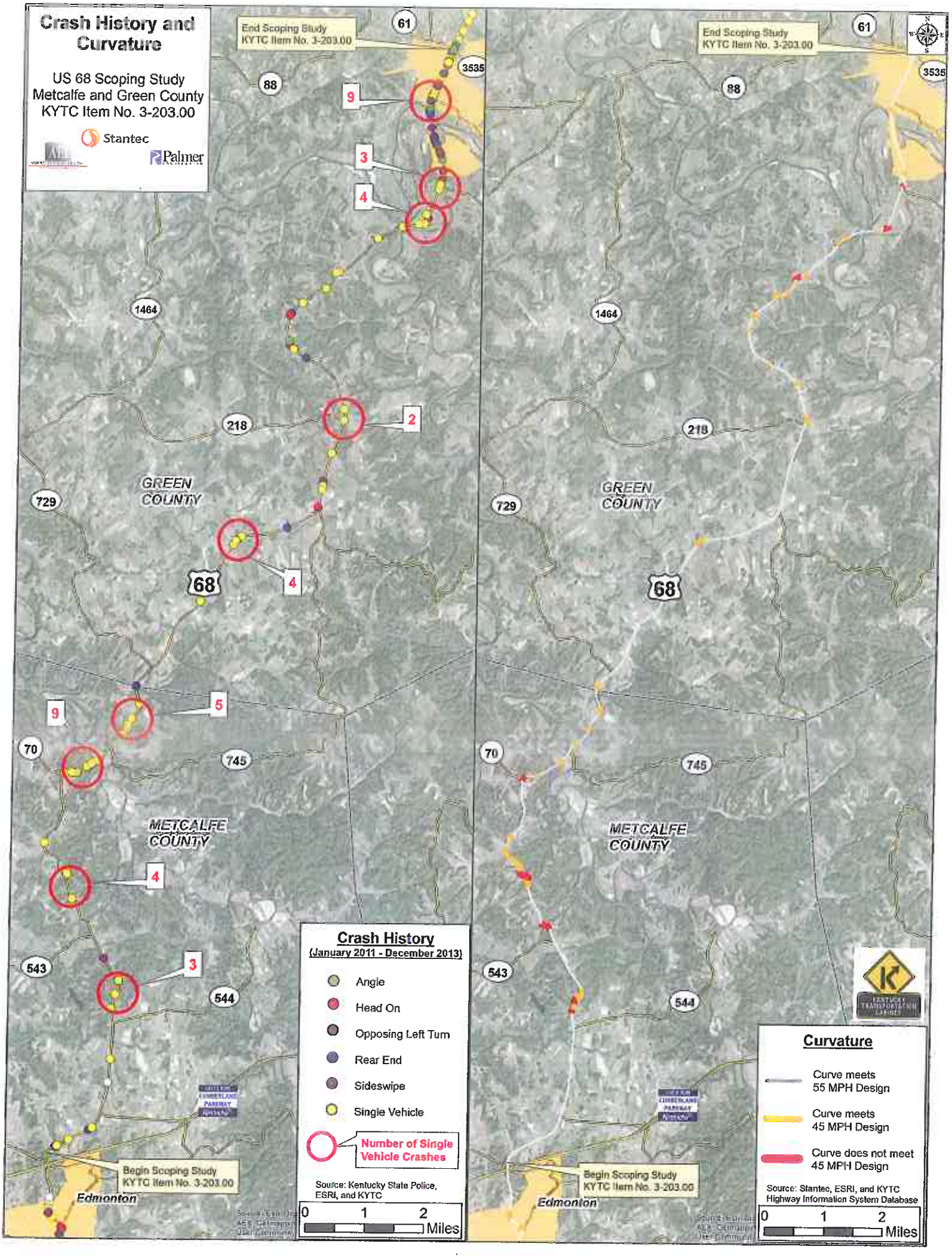
US 68 Highway Characteristics Summary

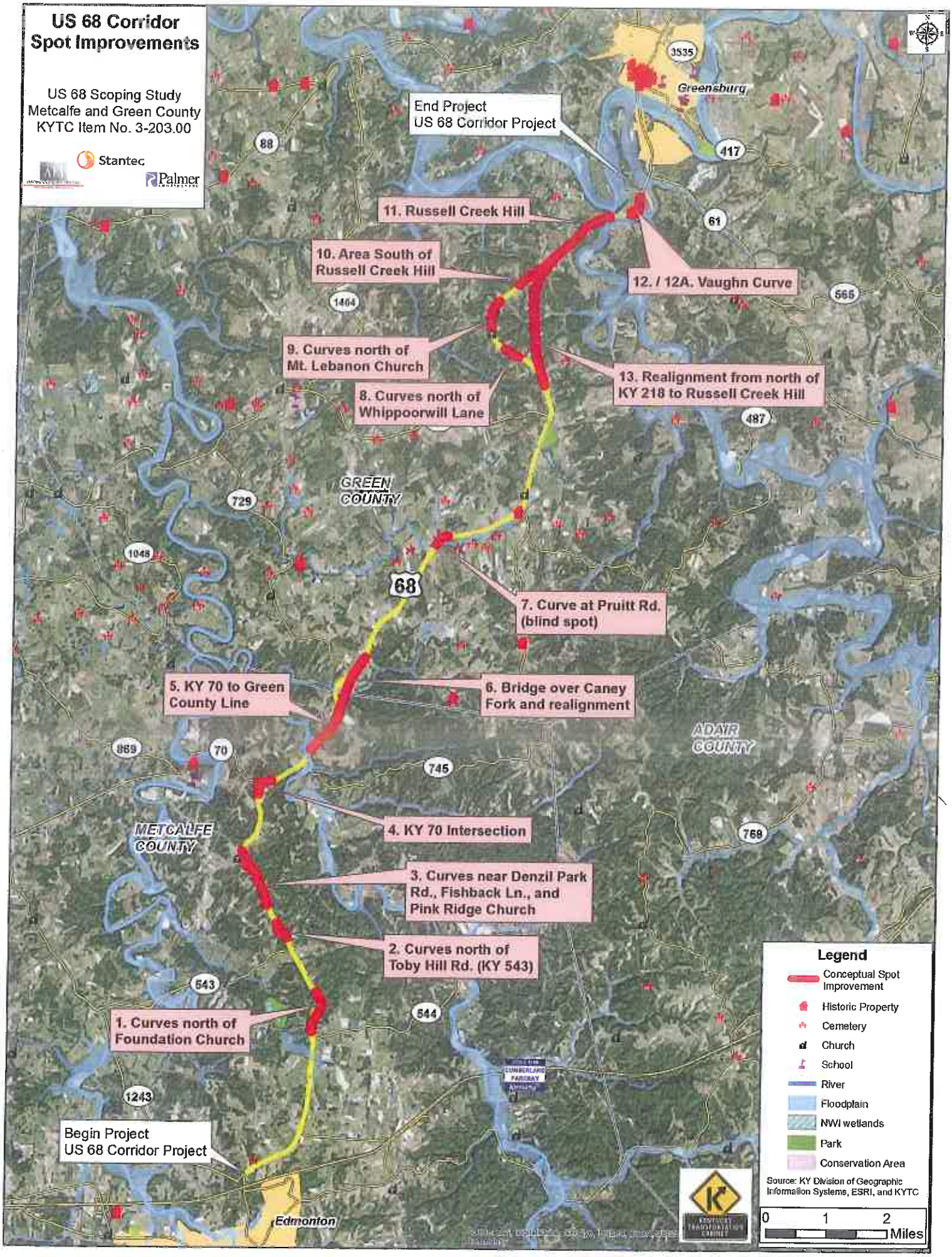
US 68 Scoping Study
Metcalfe and Green County
KYTC Item No. 3-203.00

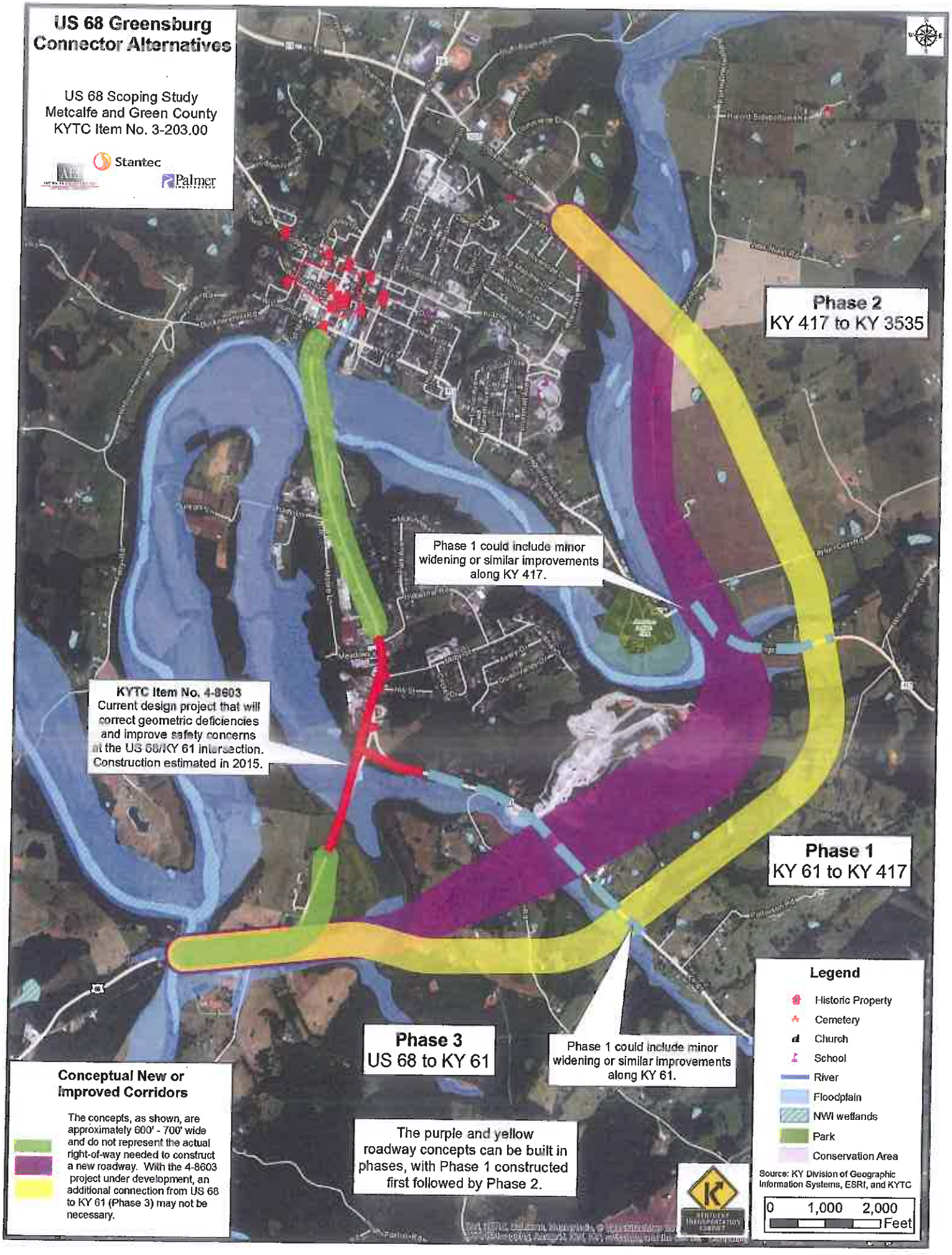
County	Begin Segment	Begin MP	End Segment	End MP	Functional Classification	Count Station	Current Traffic Volume (vehicles per day)	Count Year	Level of Service (LOS)	Truck %	Truck Weight Class	Lanes	Shoulders	Speed Limit
Metcalfe	KY 1243	10.350	KY 544	13.013	Rural Major Collector	85040	1,900	2011	B	7.70%	"AAA" (80,000 pounds)	2 - 10' wide	3' combination	55 MPH
	KY 544	13.013	KY 543	14.676		85030	1,200	2011	B					
	KY 543	14.676	KY 70	17.845		85003	900	2013	B					
	KY 70	17.845	Green Co. line	20.026		85002	900	2011	B	14.20%				
Green	Metcalfe Co. Line	0.000	KY 487	4.576	Rural Major Collector	44511	990	2013	B	14.20%	"AAA" (80,000 pounds)	2 - 9' wide	3' Combination	55 MPH
	KY 487	4.576	KY 218	6.099		44254	1,500	2011	B	9.63%		2 - 10' wide		
	KY 218	6.099	West of Locust Grove Loop	6.615		44251	2,400	2012	B			2 - 11' wide	6' Combination	
	West of Locust Grove Loop	6.615	West of Whippoorwill Ln.	6.920								2 - 10' wide	3' Combination	
	West of Whippoorwill Ln.	6.920	Mt. Lebanon Church Rd.	7.860								2 - 11' wide	8'-14' Combination	
	Mt. Lebanon Church Rd.	7.860	West of Russell Creek Brg.	10.500								2 - 10' wide	3' Combination	
	West of Russell Creek Brg.	10.500	East of Russell Creek Brg.	10.900										
	East of Russell Creek Brg.	10.900	KY 61 (south)	11.954										
	KY 61 (south)	11.954	West of Hill Street	12.110	Rural Minor Arterial	044A39	5,700	2011	B	9%		2 - 11' wide	0'-8' Curbed	35 MPH
	West of Hill Street	12.110	Industrial Road	12.291		044A17	7,900	2013	C	--		4 - 13' wide		
	Industrial Road	12.291	South of KY 417	13.273		044A35	8,700	2012	C	7.94%		4 - 12' wide		
	South of KY 417	13.273	KY 417	13.385		044A42	7,800	2011	A	5.10%			10' Paved	45 MPH
	KY 417	13.385	East Hodgenville St.	13.615										
	East Hodgenville St.	13.615	East of East Hodgenville St.	13.640										
	East of East Hodgenville St.	13.640	South of KY 61 (north)	14.110										
	South of KY 61 (north)	14.110	KY 61 (north)/ KY 3535	14.287										

*45 MPH zone begins at MP 12.132 and ends at MP 13.15

Source: KYTC Highway Information System (HIS) Database

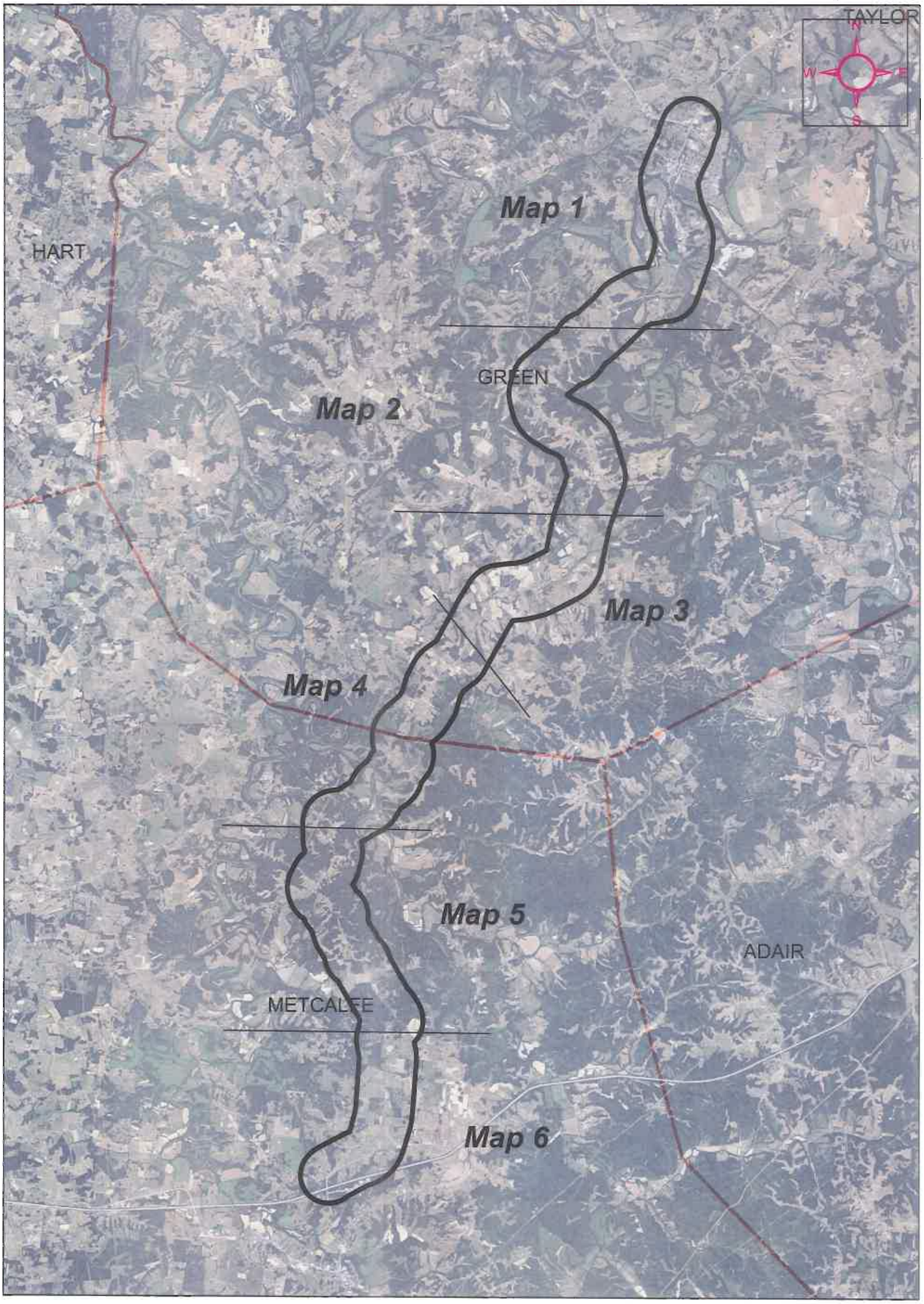

Crash History and Curvature
US 68 Scoping Study
Metcalfe and Green County
KYTC Item No. 3-203.00
Stantec
Palmer
End Scoping Study
KYTC Item No. 3-203.00
Begin Scoping Study
KYTC Item No. 3-203.00
Edmonton
GREEN COUNTY
METCALFE COUNTY
61
88
3535
1464
218
729
68
70
745
543
544
9
3
4
2
5
Crash History
(January 2011 - December 2013)
Angle
Head On
Opposing Left Turn
Rear End
Sideswipe
Single Vehicle
Number of Single Vehicle Crashes
Source: Kentucky State Police, ESRI, and KYTC
0 1 2 Miles
Curvature
Curve meets 55 MPH Design
Curve meets 45 MPH Design
Curve does not meet 45 MPH Design
Source: Stantec, ESRI, and KYTC Highway Information System Database
0 1 2 Miles


US 68 Corridor Spot Improvements
US 68 Scoping Study
Metcalfe and Green County
KYTC Item No. 3-203.00
Stantec
Palmer
End Project
US 68 Corridor Project
11. Russell Creek Hill
10. Area South of Russell Creek Hill
12. / 12A. Vaughn Curve
9. Curves north of Mt. Lebanon Church
13. Realignment from north of KY 218 to Russell Creek Hill
8. Curves north of Whippoorwill Lane
7. Curve at Pruitt Rd. (blind spot)
5. KY 70 to Green County Line
6. Bridge over Caney Fork and realignment
4. KY 70 Intersection
3. Curves near Denzil Park Rd., Fishback Ln., and Pink Ridge Church
2. Curves north of Toby Hill Rd. (KY 543)
1. Curves north of Foundation Church
Begin Project
US 68 Corridor Project
Greensburg
Edmonton
GREEN COUNTY
METCALFE COUNTY
ADAIR COUNTY
68
88
417
61
565
487
729
1048
70
745
769
543
544
1243
Legend
Conceptual Spot Improvement
Historic Property
Cemetery
Church
School
River
Floodplain
NWI wetlands
Park
Conservation Area
Source: KY Division of Geographic Information Systems, ESRI, and KYTC
0 1 2 Miles


US 68 Greensburg Connector Alternatives
US 68 Scoping Study
Metcalfe and Green County
KYTC Item No. 3-203.00
Stantec
Palmer
Phase 2
KY 417 to KY 3535
Phase 1 could include minor widening or similar improvements along KY 417.
KYTC Item No. 4-8603
Current design project that will correct geometric deficiencies and improve safety concerns at the US 68/KY 61 intersection. Construction estimated in 2015.
Phase 1
KY 61 to KY 417
Phase 3
US 68 to KY 61
Phase 1 could include minor widening or similar improvements along KY 61.
The purple and yellow roadway concepts can be built in phases, with Phase 1 constructed first followed by Phase 2.
Conceptual New or Improved Corridors
The concepts, as shown, are approximately 600' - 700' wide and do not represent the actual right-of-way needed to construct a new roadway. With the 4-8603 project under development, an additional connection from US 68 to KY 61 (Phase 3) may not be necessary.
Legend
Historic Property
Cemetery
Church
School
River
Floodplain
NWI wetlands
Park
Conservation Area
Source: KY Division of Geographic Information Systems, ESRI, and KYTC
0 1,000 2,000
Feet

US-68 Scoping Study Corridor Green and Metcalfe Counties, Ky

Sept. 18, 2014



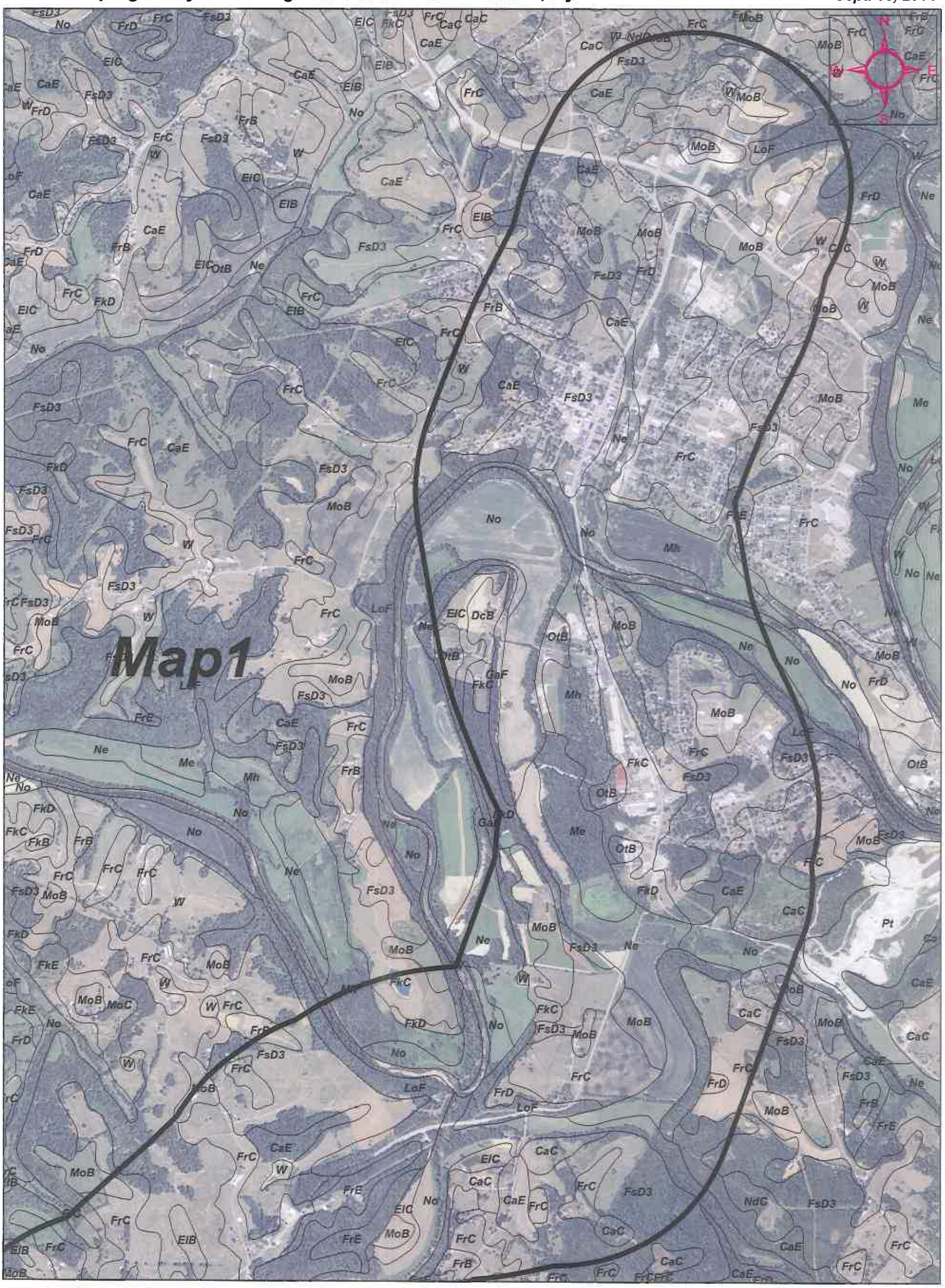
NRCS 2012 Aerial Map

Map Legend

Scale 1:100,000

US-68 Scoping Study Corridor green and Metcalfe Counties, Ky

Sept. 18, 2014



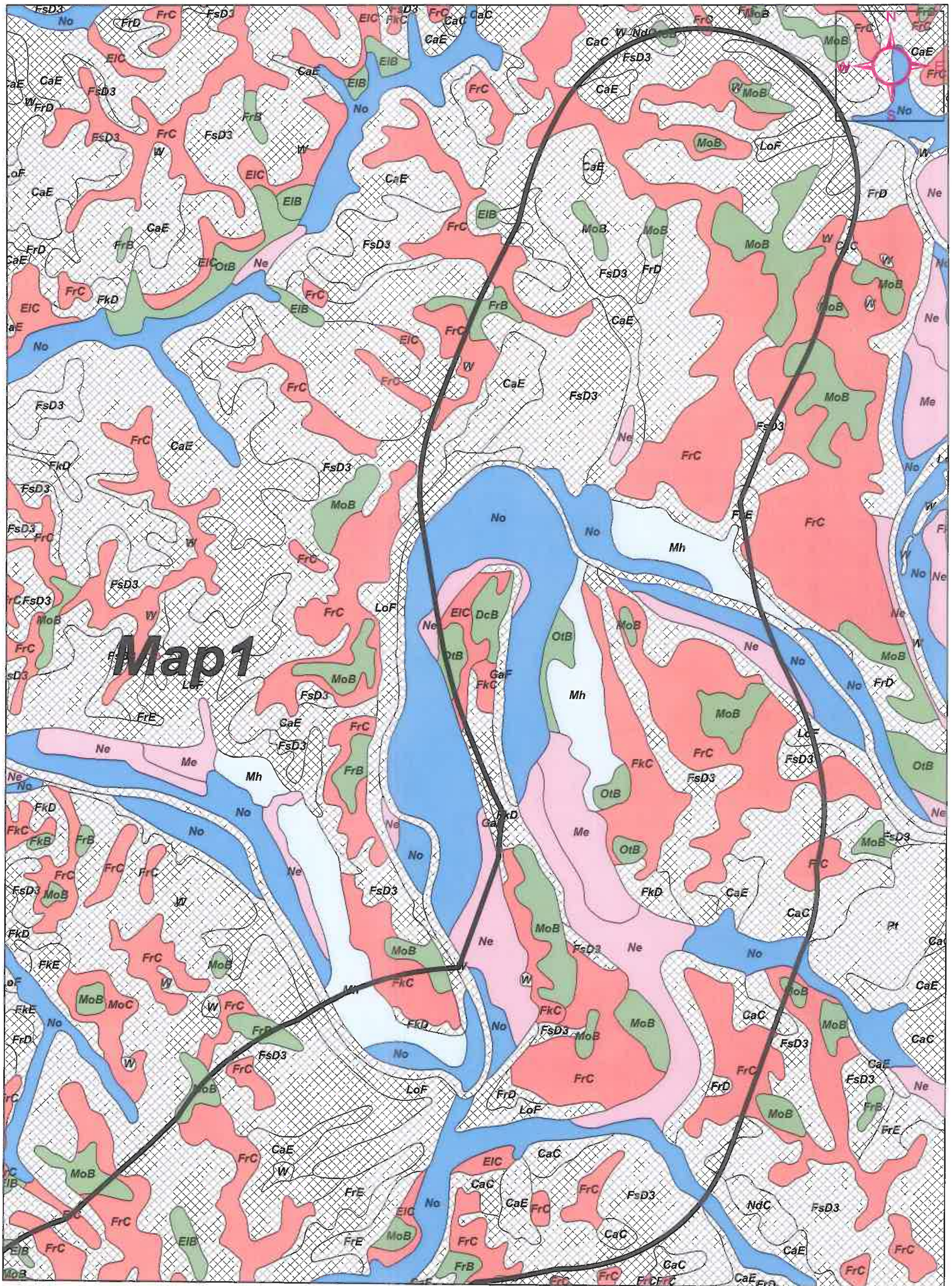
NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

Scale 1:18,500

US-68 Scoping Study Corridor green and Metcalfe Counties, Ky

Sept. 18, 2014



NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

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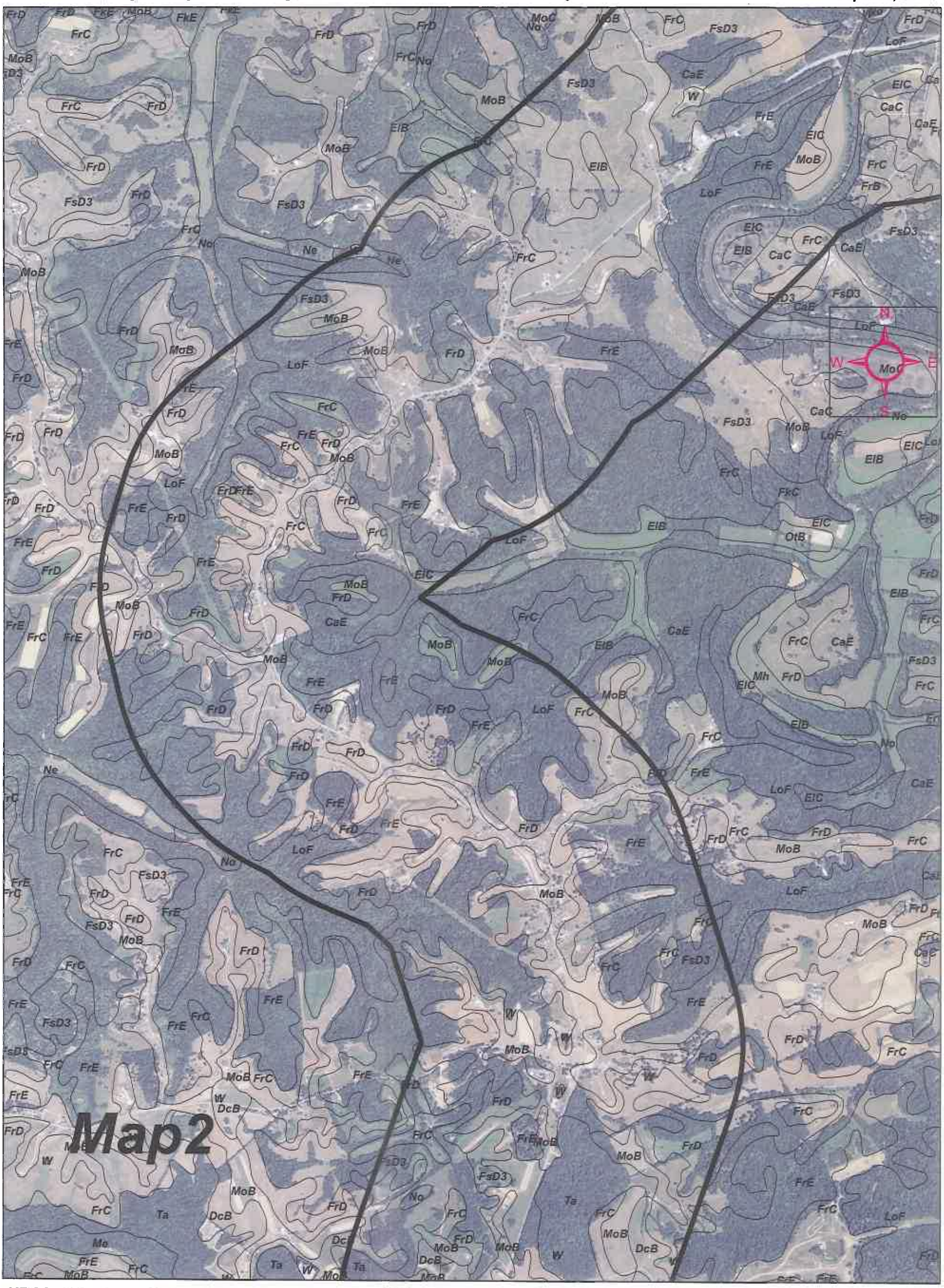
US-68 Scoping Study Corridor green and Metcalfe Counties, Ky *Sept. 18, 2014*



NRCS 2012 Aerial Map

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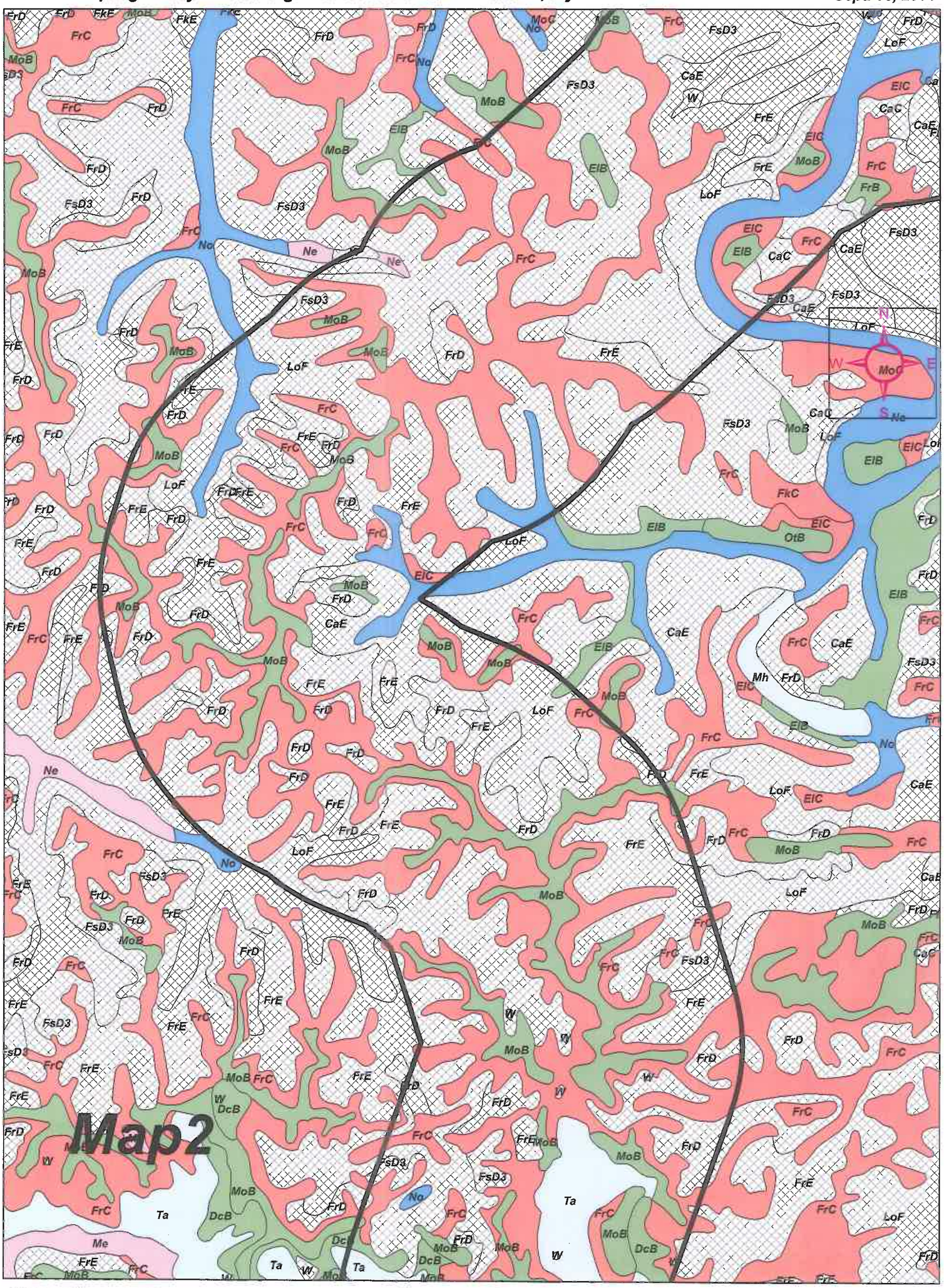
Scale 1:18,500

US-68 Scoping Study Corridor green and Metcalfe Counties, Ky *Sept. 18, 2014*



NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

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US-68 Scoping Study Corridor Green and Metcalfe Counties, Ky

Sept. 18, 2014

NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

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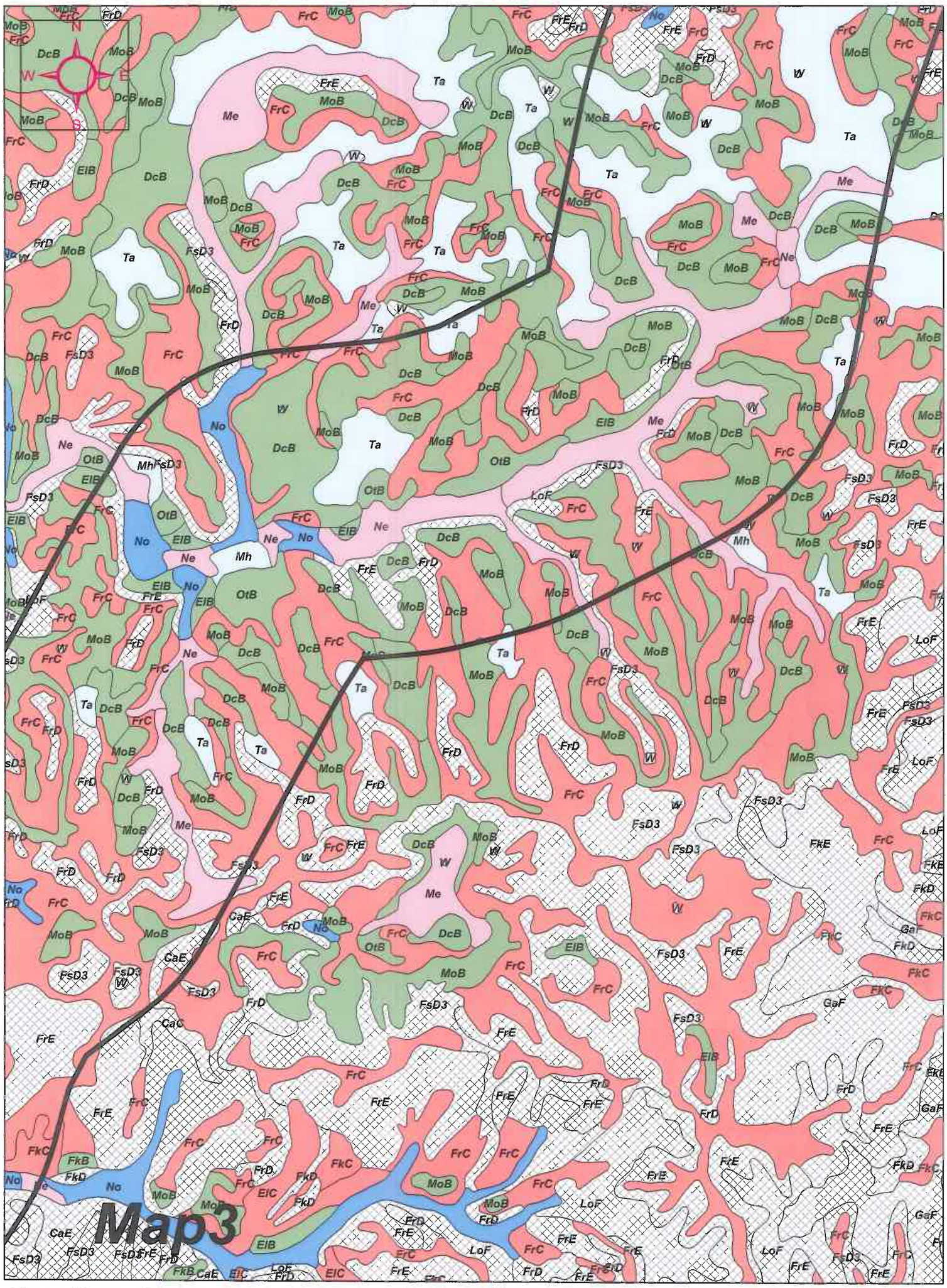
US-68 Scoping Study Corridor Green and Metcalfe Counties, Ky *Sept. 18, 2014*



NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

Scale 1:18,500

US-68 Scoping Study Corridor Green and Metcalfe Counties, Ky

Sept. 18, 2014

NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

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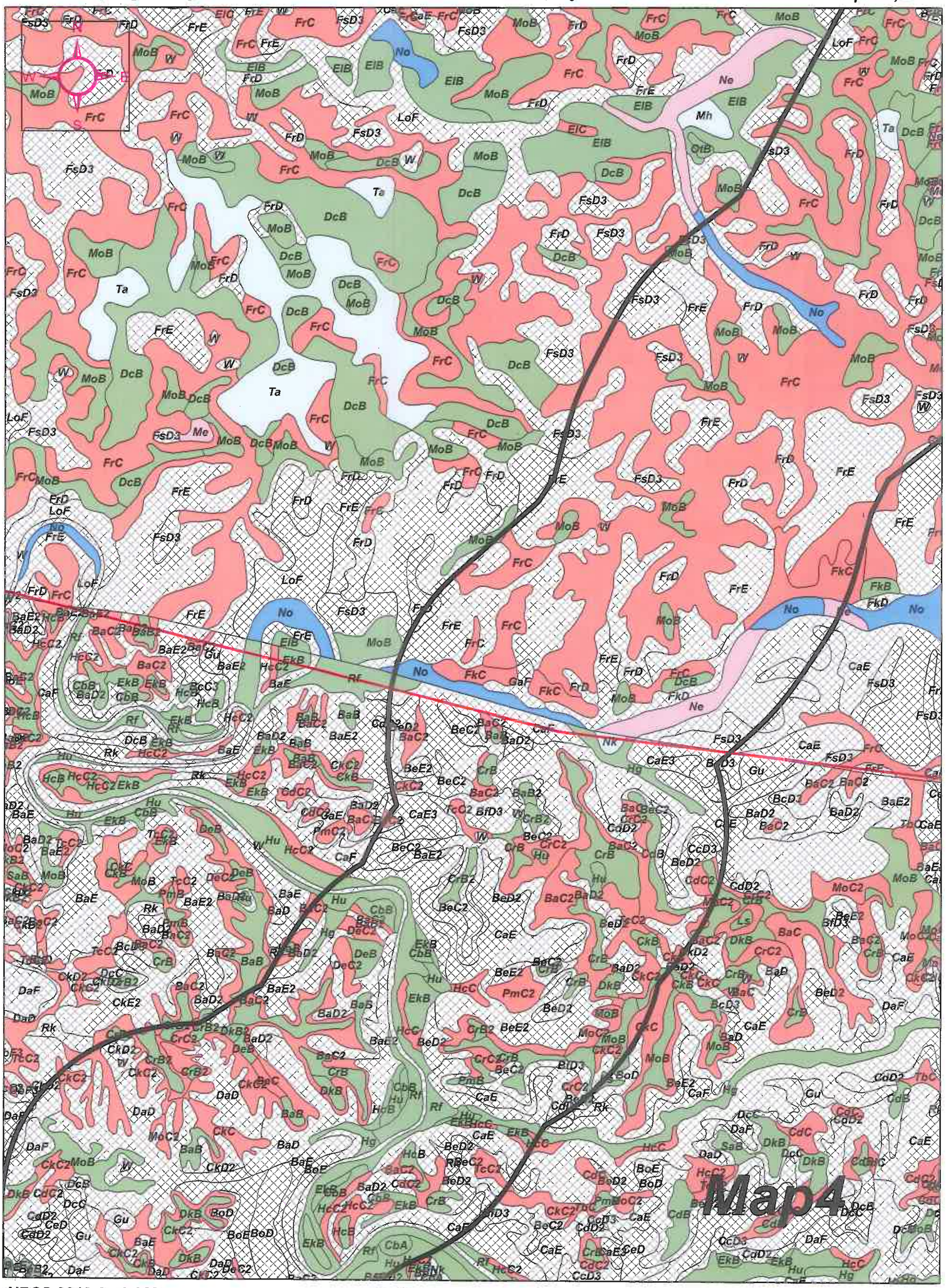
US-68 Scoping Study Corridor Green and Metcalfe Counties, Ky *Sept. 18, 2014*



NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

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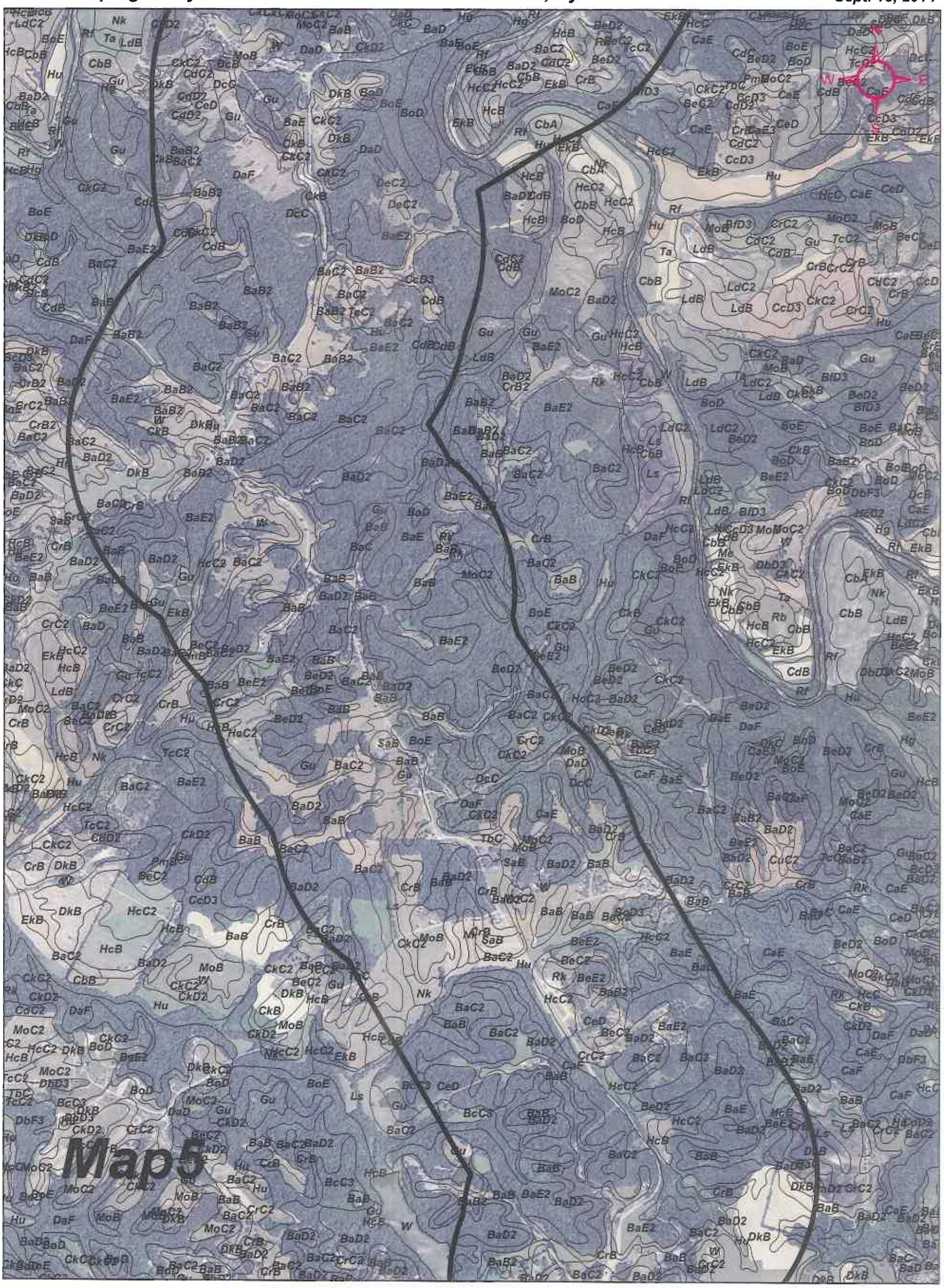
US-68 Scoping Study Corridor Green and Metcalfe Counties, Ky

Sept. 18, 2014



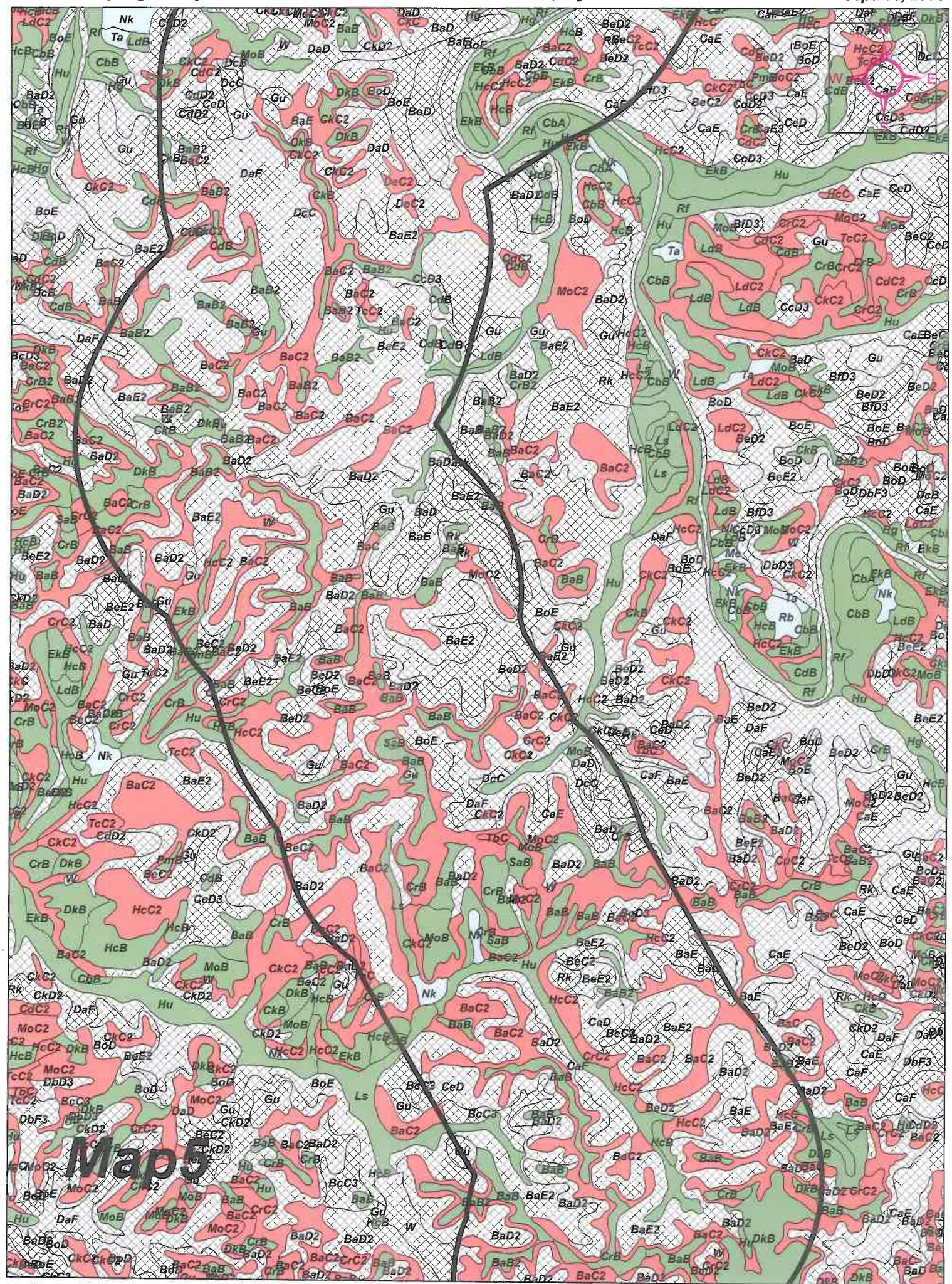
NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

Scale 1:18,500

US-68 Scoping Study Corridor Green and Metcalfe Counties, Ky

Sept. 18, 2014



NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

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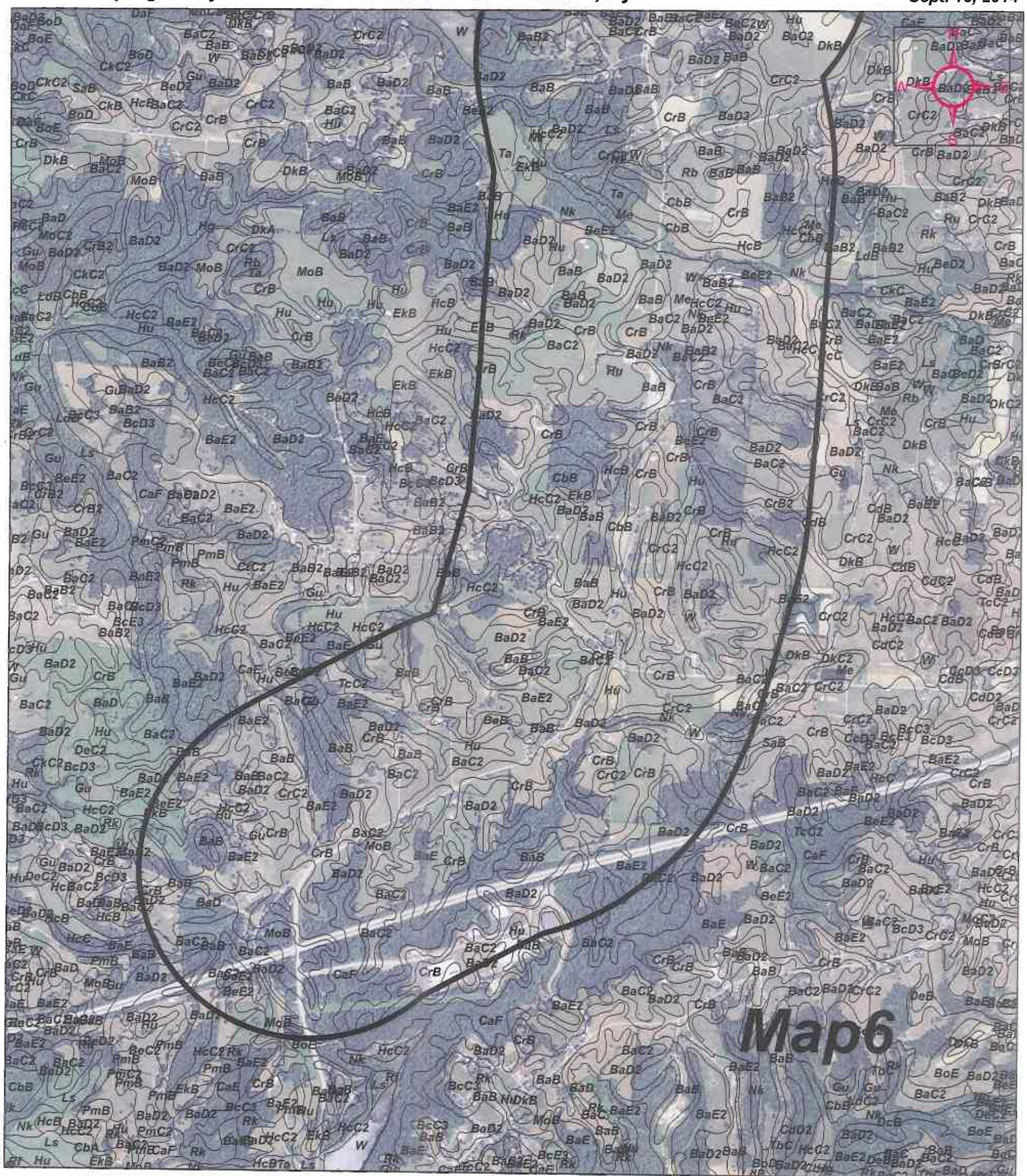
US-68 Scoping Study Corridor Green and Metcalfe Counties, Ky

Sept. 18, 2014



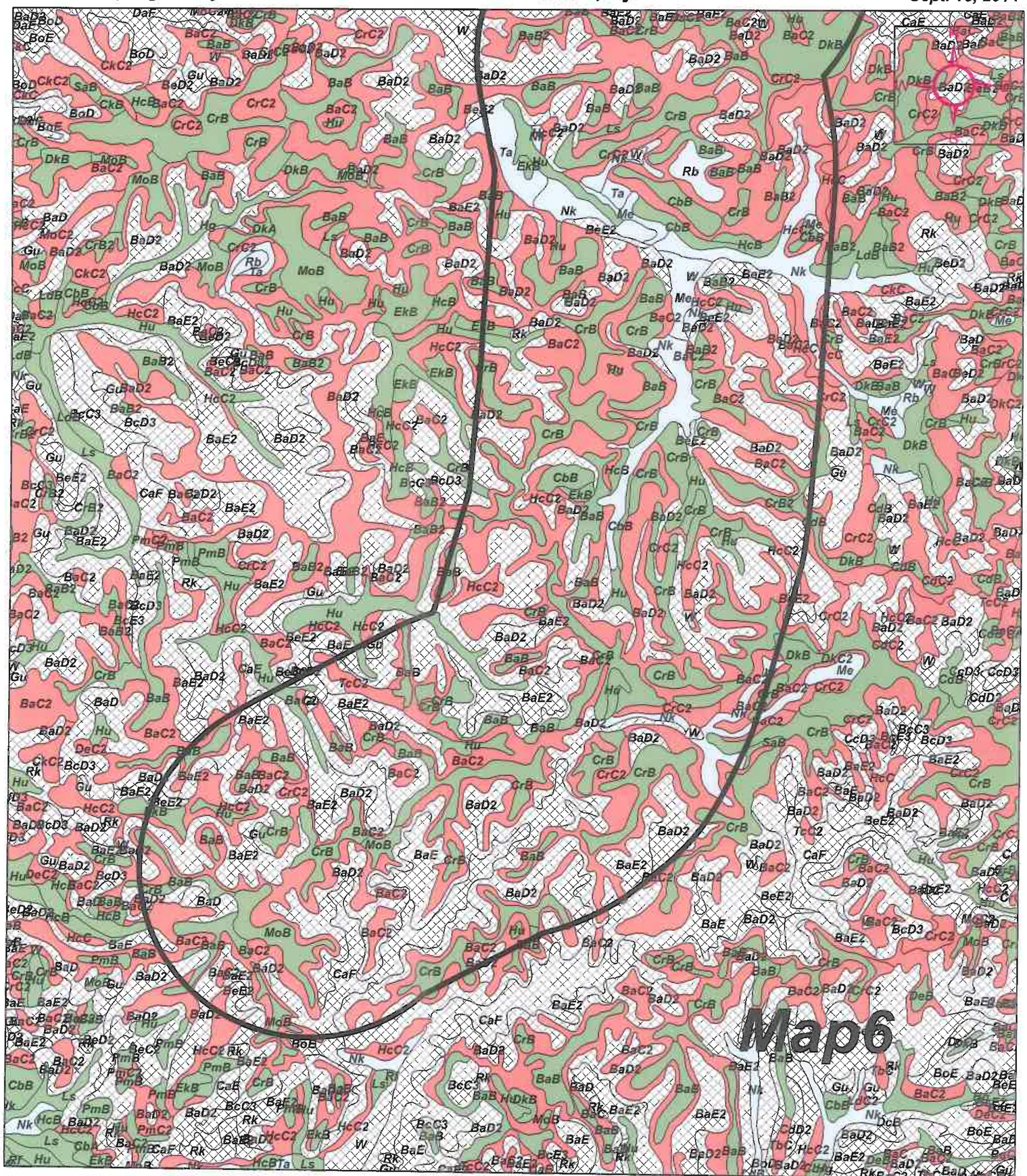
NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

Scale 1:18,500

US-68 Scoping Study Corridor Green and Metcalfe Counties, Ky

Sept. 18, 2014



NRCS 2012 Aerial Map

Soil Mapping Unit and Farmland Classification Legends Attached

Scale 1:18,500

Farmland Classification Legend

- 3-203_US68_Study_Area
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance
- Not prime farmland
- KY Counties

ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

Leonard K. Peters
Secretary

R. Bruce Scott
Commissioner

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
300 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-2150
FAX (502) 564-4245
www.dep.ky.gov

September 29, 2014

John W. Moore, PE
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 46022

Re: SERO 2014 – 23 US 68 Scoping Study in Metcalfe and Green County
No. 3-203.00

Mr. Moore,

The Energy and Environment Cabinet serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection coordinates the review for Kentucky state agencies.

We received your letter dated August 19, 2014 requesting the departments input on potential environmental impacts related to the US 68 Scoping Study in Metcalfe and Green County's. The following comments are submitted in reference to this project.

Comments from the Kentucky Department of Fish and Wildlife Resources:

The Kentucky Fish and Wildlife Information System indicates that the federally-listed Snuffbox *(Epioblasma triquetra)*, Rabbitsfoot *(Quadrula cylindrica cylindrica)*, Fanshell *(Cyprogenia stegaria)*, Clubshell *(Pleurobema clava)*, and Grey bat *(Myotis grisescens)* are known to occur within the ½ mile buffer surrounding the project. No additional state-listed species are known to occur within one mile of the project site. This project does not occur within known Indiana bat habitat according to the U.S. Fish and Wildlife Service Kentucky Field Office. No wildlife management areas are known to occur within the ½-mile buffer. However, the road does cross the Green River, an Outstanding State Resource Water due to the federally-listed species above, and Russell Creek, an Exceptional Use Water designated by the Kentucky Division of Water.

Comments from the Division of Water:

Comments on the spot improvement section are as follows. Russell Creek is an Outstanding State Resource Water. Any improvements to the bridge or riparian area must be done so that water quality and habitat of Russell Creek are not impacted. Best management practices shall be utilized to reduce runoff from the project into surface waters such as Caney Creek, Little Russell Creek, East Fork Little Barren River and Sulphur Creek.

Comments on the Greensburg Connector project are as follows. The Green River along all parts of this proposed project is an Outstanding State Resource Water with federally listed mussel species and critical habitat for a federally listed fish. Any road and right-of-way construction within the Green River corridor shall not impact water quality or critical habitat. This includes impacts to smaller streams (i.e. Clover Lick Creek) that could alter water quality and critical habitat. It is unclear what the purple shaded area on the map represents, but it would have great potential to impact water quality and habitat of the Green River. The yellow shaded area labeled Phase 1 would need best management practices that would eliminate runoff into the Green River. Along with the Phase 1 work, there is a comment that says, "Phase 1 could include minor widening or similar improvements along KY 417." Any construction/improvements near/along the bridge have a great risk of impacting the water quality and habitat of the Green River and consultation with the United States Fish and Wildlife Service and Division of Water would be required. Phase 3 of the yellow shaded area should utilize best management practices that would eliminate runoff into the Green River or its tributaries. Phase 2 of the yellow shaded area proposes a new bridge over the Green River to connect KY 3535 with KY 417. The proposed area where the bridge is to be located is right over a shoal in the river. These areas are the most productive mussel habitats. The Water Quality Branch would be hesitant to approve another bridge over the Green River, especially this site. Consultation with the United States Fish and Wildlife Service and Division of Water would be required.

Kentucky Revised Statute **KRS 151.250**, provides for exemption for the Department of Highways; therefore, a stream construction permit will not be required.

In addition, some of the area is karstic. Any water wells or monitoring well encountered in the path needs to be properly abandoned by a Kentucky Certified Well Driller.

Comments from the Division of Air Quality:

Kentucky Division for Air Quality Regulation **401 KAR 58:025**, Asbestos Standards, apply to this project, and a Kentucky Accredited Asbestos Inspector must inspect the project. Asbestos that will be affected by this activity must be removed by a Kentucky accredited contractor before renovation or demolition begins. Written notification must be given on form DEP 7036 to the Division for Air Quality, Paducah Regional Office at least 10 weekdays prior the start of demolitions, whether or not asbestos has been identified to be present. Please note form DEP 7036 and the Asbestos Fact Sheet located at http://air.ky.gov/Pages/OpenBurning.aspx

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

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Brochure located at http://air.ky.gov/Pages/OpenBurning.aspx
The Division would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of Kentucky.

§ Utilize alternatively fueled equipment.

§ Utilize other emission controls that are applicable to your equipment.

§ Reduce idling time on equipment.

The Division also suggests an investigation into compliance with applicable local government regulations.

Comments from the Kentucky Heritage Council:

The applicant must ensure compliance with relevant state and federal regulations regarding cultural resources. These may include any or all of the following: the Advisory Council on Historic Preservation's Rules and Regulations for the Protection of Historic and Cultural Properties(36CFR, Part 800) pursuant to the National Historic Preservation Act of 1966; the National Environmental Policy Act of 1969 Executive Order 11593; Kentucky Antiquities Act; Kentucky Cave Protection Act; and graves protection legislation.

This review is based upon the information that was provided by the applicant. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

If you should have any questions, please contact me at (502) 564-2150, ext. 3125.

Sincerely,

Ronald T Price

Ronald T. Price
State Environmental Review Officer
Kentucky Department for Environmental Protection

Resource Agency Mailing List

Mailing Title	Letter Title	First Name	Last Name	Suffix	Title	Organization	Address1	Address2	City	State	Zip
Mr.	Mr.	Phillip	Braden		District Office Manager	Memphis Airports District Office, Federal Aviation Administration	2862 Business Park Drive Building G		Memphis	TN	38118-1555
Ms.	Ms.	Kathy	Smith		Trucking Manager	American Association of Truckers		P.O. Box 146	Benton	KY	42025
Mr.	Mr.	Edward	Tonini		Adjutant General	Department of Military Affairs	Boone Nat'l Guard Ctr., 100 Minuteman Pky.		Frankfort	KY	40601
Ms.	Ms.	Elaine	Walker		Commissioner	Department of Parks	500 Mero Street-10th Floor CPT		Frankfort	KY	40601
Mr.	Mr.	David	Pollack		Director	Kentucky Archaelogical Survey	1020-A Export Street		Lexington	KY	40506
Mr.	Mr.	William	Straw		Regional Environmental Officer	Federal Emergency Management Agency, Region IV	3003 ChambleeTucker Road		Atlanta	GA	30341
Mr.	Mr.	Richard	Sutherland		Chair	Kentuckians for Better Transportation	9300 Shelbyville Road Ste 1204		Louisville	KY	40222-5169
Mr.	Mr.	Burt	Lauderdale		Executive Director	Kentuckians for The Commonwealth	105 Reams Street	P.O. Box 1450	London	KY	40743
Ms.	Ms.	Audrey Tayse	Haynes		Secretary	Cabinet for Health and Family Services	275 East Main St., 5W-A		Frankfort	KY	40621
Mr.	Mr.	John	Houlihan		Administrator	Kentucky Airport Zoning Commission	90 Airport Rd. Bldg 400	200 Mero Street	Frankfort	KY	40601
Sheriff	Sheriff	Jerry	Gaines		President	Kentucky Association of Counties	400 Englewood Dr.		Frankfort	KY	40601
Ms.	Ms.	Amy	Cloud		President	Kentucky Chamber of Commerce Executives, Inc.	464 Chenault Road		Frankfort	KY	40601
Mr.	Mr.	James	Comer		Commissioner	Kentucky Department of Agriculture	32 Fountain Place		Frankfort	KY	40601
Mr.	Mr.	R. Bruce	Scott		Commissioner	Kentucky Department for Environmental Protection	300 Fair Oaks Lane		Frankfort	KY	40601
Mr.	Mr.	Gregory	Johnson		Commissioner	Kentucky Department of Fish and Wildlife Resources	1 Sportsman's Lane		Frankfort	KY	40601
Mr.	Mr.	Steve	Hohmann		Commissioner	Kentucky Department for Natural Resources	#2 Hudson Hollow		Frankfort	KY	40601
Ms.	Ms.	Kimberly	Richardson		Director	Kentucky Department of Nat'l. Resources, Division of Conservation	375 Versailles Road		Frankfort	KY	40601
Mr.	Mr.	Rodney	Brewer		Commissioner	Kentucky Department of State Police	919 Versailles Road		Frankfort	KY	40601
Mr.	Mr.	Billy	Ratliff		Director	Division of Mine Reclamation and Enforcement	# 2 Hudson Hollow		Frankfort	KY	40601
Mr.	Mr.	John	Lyons		Director	Kentucky Division for Air Quality	200 Fair Oaks Ln, 1st Floor		Frankfort	KY	40601
Ms.	Ms.	Leah W.	MacSwords		Director	Kentucky Division of Forestry	627 Comanche Trail		Frankfort	KY	40601
Lt. Color	Lt. Color	Keith	Peercy		Director	Kentucky Department of Vehicle Enforcement	919 Versailles Road		Frankfort	KY	40622
Mr.	Mr.	Anthony	Hatton		Director	DEP Division of Waste Management	200 Fair Oaks, 2nd Flr		Frankfort	KY	40601
Ms.	Ms.	Sandy	Gruzesky		Director	DEP Division of Water	200 Fair Oaks, 4th Flr		Frankfort	KY	40601
Mr.	Mr.	Larry	Hayes		Secretary	Kentucky Cabinet for Economic Development	Old Capitol Annex	300 West Broadway	Frankfort	KY	40601
Ms.	Ms.	Terri	McLean		News Editor	Kentucky Forward	464 Chenault Road		Frankfort	KY	40601
Mr.	Mr.	Jerry	Weisenfluh		Interim State Geologist & Director	Kentucky Geological Survey, University of Kentucky	228 Mining and Mineral Resources Bldg.		Lexington	KY	40506
Mr.	Mr.	Craig	Potts		State Historic Preservation Officer	Kentucky Heritage Council	300 Washington Street		Frankfort	KY	40601
Mr.	Mr.	Kent	Whitworth		Executive Director	Kentucky Historical Society	100 W. Broadway		Frankfort	KY	40601
Mr.	Mr.	Hal	Goode		President/CEO	Kentucky Association for Economic Development	101 Burch Count		Frankfort	KY	40601
Mr.	Mr.	Jonathan	Steiner		Executive Director/CEO	Kentucky League of Cities, Inc.	100 East Vine Street, Ste. 800		Lexington	KY	40507
Mr.	Mr.	Jamie	Fiepke		President/CEO	Kentucky Motor Transport Association	617 Shelby Street		Frankfort	KY	40601
Mr.	Mr.	Leonard	Peters		Secretary	Kentucky Energy and Environmental Cabinet	Capital Plaza Tower, 5th Floor		Frankfort	KY	40601
Mr.	Mr.	Donald S.	Dott	, Jr.	Executive Director	Kentucky State Nature Preserves Commission	801 Schenkel Lane		Frankfort	KY	40601
Ms.	Ms.	Vickie	Bourne		Executive Director	Kentucky Office of Transportation Delivery	Transportation Office Building, 3rd Floor	200 Mero Street	Frankfort	KY	40622
Mr.	Mr.	Beecher	Hudson		CEO	Kentucky Public Transit Association	1134 S. Preston St		Louisville	KY	40203
					President/CEO	Kentucky Travel Industry Association	931 East Main Street		Frankfort	KY	40601
Mr.	Mr.	Bob	Stewart		Secretary	Tourism, Arts and Heritage Cabinet	Capital Plaza Tower, 24th Floor	500 Mero Street	Frankfort	KY	40601
Mr.	Mr.	Joseph	Meyer		Secretary	Kentucky Education and Workforce Development Cabinet	Capital Plaza Tower, 3rd Floor	500 Mero Street	Frankfort	KY	40601
Mr.	Mr.	Jim	Aldrich		Director of Stream & Wetland Restoration	The Nature Conservancy - Kentucky Chapter	114 Woodland Avenue		Lexington	KY	40502
Mr.	Mr.	Paul	Bergmann		Executive Director	Scenic Kentucky		P. O. Box 23317	Louisville	KY	40223-0317
Mr.	Mr.	Heinz	Mueller		Chief of NEPA Program Office	Office of Environmental Accountability	US EPA, Region 4	61 Forsyth Street, SW	Atlanta	GA	30303
Ms.	Ms.	Alice	Howell		Chapter Chair	Sierra Club	P.O. Box. 1368		Lexington	KY	40588-1368
Ms.	Ms.	Karen	Woodrich		State Conservationist	U.S. Dept. of Agriculture, Natural Resources Conservation Service	771 Corporate Drive, Suite 210		Lexington	KY	40503
Dr.	Dr.	Pamela	Roshell		Regional Director	U.S. Dept. of Health & Human Serv., Region IV, Atlanta Federal Center	61 Forsyth Street, Room 5B95		Atlanta	GA	30303-8909
Mr.	Mr.	Lee	Andrews		Field Supervisor	U.S. Fish & Wildlife Service, Kentucky Ecological Services Field Section	330 W. Broadway, Room 265		Frankfort	KY	40601
Mr.	Mr.	Eric	Washburn		Bridge Administrator	United States Coast Guard, Eighth District Western Rivers Bridge Branch	1222 Spruce Street, Suite 2.102D		St. Louis	MO	63103
The Hon	Senator	Rand	Paul		United States Senator	United States Senate	208 Russell Senate Office Building		Washington	DC	20510
The Hon	Senator	Mitch	McConnell		United States Senator	United States Senate	317 Russell Senate Office Building		Washington	DC	20510
The Hon	Congres	Ed	Whitfield		United States Representative - District 1	U. S. House of Representatives	2184 Rayburn House Office Building		Washington	DC	20515
The Hon	Congres	Brett	Guthrie		United States Representative - District 2	U. S. House of Representatives	308 Cannon House Office Building		Washington	DC	20515
Mr.	Mr.	Stephen	Durrett		Deputy District Engineer	U. S. Army Corps of Engineers, Louisville District	P.O. Box. 59,CELRL-PM		Louisville	KY	40201
Lt. Color	Lt. Color	John	Hudson		District Commander	U. S. Army Corps of Engineers, Nashville District	801 Broadway		Nashville	TN	37203
Ms.	Ms.	Krista	Mills		Field Office Director	U.S. Department of Housing & Urban Development, KY Louisville Field Office	601 West Broadway, Room 110		Louisville	KY	40202
Ms.	Ms.	Pamela	Rice		Kentucky Division Administrator	Federal Motor Carrier Safety Administration	330 West Broadway Room 124		Frankfort	KY	40601
Ms.	Ms.	Yvette	Taylor		Regional Administrator	Federal Transit Administration, Region IV	230 Peachtree, NW, Suite 800		Atlanta	GA	30303
	Sir and/or Madam					Kentucky Household Goods Carrier Association Inc.	P.O. Box 99306		Louisville	KY	40269-0306

Mailing Title	Letter Title	First Name	Last Name	Suffix	Title	Organization	Address1	Address2	City	State	Zip
Mr.	Mr.	John	Johnson		Executive Director	Kentucky Commission on Human Rights	332 West Broadway, 7th Floor		Louisville	KY	40202
Mr.	Mr.	Kirk	Dowden		Planning and Programming Manager	Federal Highway Administration, Eastern Federal Lands Highway Division	21400 Ridgetop Circle		Sterling	VA	20166
Mr.	Mr.	Gene	Becker		Transportation Planning Section	Barren River Area Development District	177 Graham Avenue		Bowling Green	KY	42101
Mr.	Mr.	Larry	Wilson		Transportation Planner	Lake Cumberland Area Development District	255 South Maple Street		Somerset	KY	42501
Hon	Hon.	Misty	Edwards		Judge/Executive	Green County Government	203 West Court Street		Greensburg	KY	42743
Hon.	Hon.	Greg	Wilson		Metcalfe County Judge Executive	County of Metcalfe	PO Box 149		Edmonton	KY	42129
Mayor	Mayor	Howard	Garrett		Mayor, City of Edmonton	City of Edmonton	PO Box 374		Edmonton	KY	42129
Mr.	Mr.	Robby	Beard		Sheriff	Green County Government	203 West Court Street		Greensburg	KY	42743
Mr.	Mr.	Rondal	Shirley		Sheriff	Metcalfe County Government	P.O. Box 371		Edmonton		42129
Mr.	Mr.	Bill	Matney		Emergency Management Director	Green County Government	205 East Hodgenville Avenue		Greensburg	KY	42743
Mr.	Mr.	Rodney	Robertson		County Road Superintendent	Green County Government	203 West Court Street		Greensburg	KY	42743
Mayor	Mayor	Lisle	Cheatham		Mayor	City of Greensburg	110 West Court Street		Greensburg	KY	42743
Mr.	Mr.	Wayne	Hedgespeth		Police Chief	City of Greensburg	105 West Hodgenville Avenue		Greensburg	KY	42743
Mr.	Mr.	Lawrence	Gupton		Fire Chief	City of Greensburg	207 East Hodgenville Avenue		Greensburg	KY	42743
Hon	Sen.	David	Givens		9th District State Senator	Kentucky State Senate	PO Box 12		Greensburg	KY	42743
Hon	Rep.	Terry	Mills		24th District State Representative	Kentucky General Assembly	695 McElroy Pike		Lebanon	KY	40033
Hon.	Hon.	Bart	Rowland		53rd District Representative	Kentucky State Legislature	PO Box 336		Tompkinsville	KY	42167
Mr.	Mr.	Roger	Skaggs		Public Works Director	City of Greensburg	205 East Hodgenville Avenue		Greensburg	KY	42743
Mr.	Mr	Jim	Frank		Superintendent	Green County Schools	402 East Hodgenville Avenue		Greensburg	KY	42743
Mr.	Mr	Benny	Lile		Superintendent	Metcalfe County Schools	109 Sartin Drive		Edmonton	KY	42129

CC to: Jose Sepulveda, FHWA
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Gary Valentine, Deputy State Highway Engineer for Project Development
Chief District Engineer(s)
C.O. Project Manager or Backup
District Project Develoment Branch Manager
District Planning Supervisor
Steve Ross, Branch Manager Strategic Planning, KYTC Division of Planning
Mark Hite, Director, KYTC Division of Structural Design
Ryan Griffith, Director, KYTC Division of Construction
David Waldner, Director, KYTC Division of Environmental Analysis
Bart Asher, Branch Manager, KYTC Geotech Branch
Jeff Wolfe, Director, KYTC Division of Traffic Operations
Donald Smith, Branch Manager, KYTC Permits Branch
Bill Gulick, Director, KYTC Division of Design
Consultant