

Appendix B - ENVIRONMENTAL OVERVIEW

ENVIRONMENTAL OVERVIEW

**CORBIN BYPASS (KY 3041)
EXTENSION STUDY
KNOX AND LAUREL COUNTIES,
KENTUCKY
KYTC ITEM #11-190.00**



APRIL 2013

ENVIRONMENTAL OVERVIEW

**Corbin Bypass (KY 3041)
Extension Study
Knox and Laurel Counties,
Kentucky
KYTC Item #11-190.00**



Stantec

Prepared for:
Kentucky Transportation Cabinet
District 11

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April 2013

ENVIRONMENTAL OVERVIEW

Corbin Bypass (KY 3041) Extension Study
Knox and Laurel Counties, Kentucky
KYTC Item #11-190.00

Executive Summary

This Environmental Overview has been completed for the Corbin Bypass (KY 3041) Extension Study to identify environmental resources and potential issues of concern, and establishes an environmental footprint for consideration in the development of future transportation projects and avoidance and minimization of impacts. The study area assessed for this report includes the area east of I-75 and north of US 25E between the cities of Corbin in Knox County and London in Laurel County, having total area of approximately 9.1 square miles.

Natural environment resources identified within the study area and issues which must be addressed if impacts occur include:

- Aquatic resources: Forty-three streams and 81 NWI-mapped wetlands are mapped within the study area. Of particular concern is the Laurel River (a Kentucky Division of Water (KDOW) 305(b) and 303(d) listed stream), and the mapped wetlands along Robinson Creek.
- Floodplains: Federal Emergency Management Agency (FEMA) mapped 100-year floodplains are Floodplains are associated with Laurel River and Robinson Creek, both crossing through the middle of the study area, and Horse Creek crossing the study area just north of the Knox County border. No floodways are mapped through these locations.
- Groundwater resources: Fourteen water wells registered for domestic use and eight groundwater monitoring wells are present in the study area. One mapped spring occurs within the study area, and the underlying geology contributes to a moderate susceptibility to contamination of groundwater resources.
- Public water supplies: The majority of the study area is within one of two Source Water Assessment and Protection (SWAP) areas which include surface drainages that flow into Laurel River and Robinson Creek. The Laurel River at the southwest corner of the study area is a public surface water supply source.
- Threatened and endangered species and habitats: One federal endangered species, Cumberland elktoe (*Alasmidonta atropurpurea*), has been reported to occur in the Laurel River within the study area, and four additional federal-listed species are known to occur in or within 5 miles of the study area. An additional 12 state-listed species are recorded as occurring within 5 miles of the study area. The sensitive natural communities of bottomland hardwood forest and Cumberland Plateau gravel/cobble bar are present within the study area.
- Section 4(f)/6(f) public resources: One potential Section 4(f) resource, a publicly accessible recreation facility, was identified in the study area. No facilities have received federal funds as recreation or conservation areas (Section 6(f) Resources).

ENVIRONMENTAL OVERVIEW

Corbin Bypass (KY 3041) Extension Study
Knox and Laurel Counties, Kentucky
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Human environment resources identified within the study area and issues which will require being addressed include:

- Section 4(f) and Section 106 cultural resources: No National Register of Historic Places listed archaeological or cultural historic properties are present in the study area. One previously recorded archaeological site and 93 cultural historic sites (one recommended eligible for NRHP listing) are identified within the study area. Only a small portion of the study area has been previously surveyed for archaeological resources. It is anticipated that additional archaeological and cultural historic resources are potentially present throughout the study area.
- Potential hazardous materials concern sites: One State Hazardous Waste Site (SHWS) is present within the study area, along with one historical landfill (HIST LF) site, one RCRA site, 14 Underground Storage Tank (UST) sites and two producing gas wells.
- Mining: Former strip mined lands, several small mined-out areas and two small, abandoned underground mines are mapped within the study area.
- Infrastructure Facilities: Several infrastructure facilities exist in the study area, such as the CSX railroad line, the Laurel Water District #2 Water Treatment Plant, two electrical substations and two cellular towers.

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1.0 PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

1.1 PROJECT DESCRIPTION, HISTORY AND STATUS

The Corbin Bypass (KY 3041) Extension Study will develop and evaluate alternatives for the possible extension of the Corbin Bypass (KY 3041) in Knox County to the north and west to I-75 in Laurel County. The existing bypass is a 3.9-mile long, two-lane facility connecting US 25W to US 25E around the southeast quadrant of the City of Corbin. There is a need to expand access to Interstate 75 from the Corbin Bypass to facilitate efficient freight distribution and to alleviate congestion on existing interstate access routes.

The study area assessed for this report includes the area east of I-75 and north of US 25E in the north-Corbin/south-London area (see Attachment A1). This study area begins at the existing KY 3041 and US 25E intersection in Knox County, extends north to Laurel County, and then widens to the north and west to end at I-75 around the KY 552 overpass. The total area under consideration is approximately 9.1 square miles, extending 6 miles in length north to south and from 0.3 to 3 miles in width (east to west), with 9 percent of the study area in Knox County and 91 percent in Laurel County.

This Environmental Overview, a component of the Strategic Corridor Planning Study work in progress, identifies environmental resources and potential issues of concern, and establishes an environmental footprint for consideration in the development of project alternatives and avoidance and minimization of impact efforts. Information for this overview was obtained from literature review, resource agency coordination, field observation and additional secondary source information relevant to the study area and the resources of concern. Information obtained from secondary source materials are mapped on the aerial photograph Environmental Footprint planning level base maps provided in Attachments A2 and A3 and a USGS Topographic map base provided in Attachment A4.

Resources and issues of concern identified through secondary source materials and a field review conducted 5 April 2013 include those related to both the natural and human environment. Natural environment resources are presented in Section II, which includes streams, floodplains, wetlands, ponds, water supplies, threatened, endangered and special concern species and habitat, woodland and terrestrial areas, and parks (Attachment A2). Human environment resources are presented in Section III, which includes social and economic resources, historic and archaeological resources, hazardous materials issues, agriculture, mining, air quality, noise, and additional concerns (Attachment A3).

1.2 LAND COVER

Land cover in the project area was determined through a review of aerial photographs and the 2005 Kentucky Land Cover Dataset (KDGI, 2007a; Attachment B1). General land cover in the

study area is developed along US 25 (high and medium intensity, commercial and industrial, approximately 10% of the study area), with residential (low intensity, rural and suburban, 5%) along secondary and back roads, and agricultural (40% as pasture/hay and 30% as grassland/herbaceous) covering much of the land. Natural areas (forests and open water, 15%) comprise the remainder of the study area.

1.3 PHYSIOGRAPHY AND TOPOGRAPHY

The study area is located in the Eastern Kentucky Coalfields (also called Cumberland Plateau and Mountains) physiographic region (KGS, 2001a, Newell, 2001; Attachment B2) and the Cumberland Plateau ecoregion of the Southwestern Appalachians subarea (Woods et al, 2002; Attachment B3). These regions are described as generally highly dissected with steep valley walls and narrow, sinuous valleys, having local relief of open hills, ridges, rolling uplands and intervening valleys. Historic and potential natural vegetation includes mixed mesophytic forests ranging from poplar-maple-ash to mixed oak-pine. Most of the rich, mixed forest have been logged and are in various stages of second and third growth dominated by pine, maple and gum on drier and higher slopes, with poplar and maple dominant in mesic, lower slopes.

The study area and vicinity has level and rolling terrain with moderate relief. Review of the United States Geologic Survey topographic maps (USGS, 1970a and 1970b; Attachment B4) indicate elevations range from about 1100 feet above mean sea level (AMSL) along the Laurel River and Robinson Creek valleys to over 1300 feet AMSL in the southern hilltops. The broad river valleys are surrounded by narrow ridges and knobs which rise higher in the east and south than to the north and west.

1.4 GEOLOGY AND SOILS

In general, surficial geology consists of unconsolidated colluvium and alluvium of Quaternary age over Pennsylvanian sandstone, shale, siltstone and coal of the lower Breathitt Group above the sandstones of the Grundy, Alvy Creek and Bee Rock Formations (Kilburn, et al, 1962; Woods et al, 2002; Carey and Stickney, 2005a and 2005b; Carey and Storm, 2007a and 2007b; KGS, 2013a; Attachment B5). Subsurface and surface coal mining has occurred throughout the region for many years. Knox County is considered to be a non-karst area while the only karst-prone area in Laurel County is along the northwest boundary of the county, well outside of the project area (KGS, 2001b; Attachment B6).

Soils in the study area and vicinity occur primarily as Whitley silt loams, Lily loams and fine sandy loams, Shelocta-Latham silt loams and gravelly silt loams, Bonnie silt loams and Wernock silt loams. These soils, except for Bonnie silt loams, are described as moderately deep to deep, upland, mostly well drained, some with gravelly and sandy subsoils and sloping (2 to 60 percent slopes) soils of uplands and terraces. Bonnie silt loams are the only major soil series that are poorly drained, silty clay loams of floodplains. Five soil series are listed as hydric or having hydric inclusions, being found on flood plains and stream terraces and comprising approximately 10 percent of the study area. Bonnie silt loams (frequently flooded and terrace,

occasionally flooded) are listed as hydric, while Stendal silt loams (frequently flooded and terrace, occasionally flooded) are listed with hydric inclusions comprising three to five percent of map units (USDA, 2012a, 2012b and 2012c; Attachment B7).

1.5 DRAINAGE

The study area includes three watersheds (HUC-12) of the Laurel River drainage (HUC-10), within the Upper Cumberland River accounting unit of the Ohio River Basin (Carey, 2003; KDOW, 2013a; Attachment B8). The central portion and majority of the study is within the Robinson Creek-Laurel River watershed, with the northwest corner along I-75 occurring within the Little Laurel River watershed, and the portions south of KY 1223 occurring within the Lynn Camp Creek watershed.

Watersheds in Study Area

Basin	Accounting Unit (HUC-6)	Catalog Unit (HUC-8)	Drainage (HUC-10)	Watershed (HUC-12)	Drainage Area (mi ²)
05 Ohio River	051301 Upper Cumberland	05130101 Upper Cumberland Kentucky, Tennessee	0513010108 Laurel River	051301010802 Little Laurel River	44.1
				051301010803 Robinson Creek-Laurel River	46.0
				051301010804 Lynn Camp Creek	61.3

Local surface drainage is generally to the west and south following the Laurel River (USGS, 2004). Larger surface streams within the study area include the Laurel River and Robinson Creek, which both flow to the west through the center of the study area, and Horse Creek in the south of the study area. A total of 43 surface streams are mapped within the study area, including two larger streams, three additional perennial streams, and 38 mapped intermittent streams.

2.0 NATURAL ENVIRONMENT

Natural environment resources include streams; floodplains; wetlands; ponds; water supplies; threatened, endangered and special concern species and habitat; woodland and terrestrial areas; and parks located within the study area. Information concerning each resource was obtained primarily from publicly available secondary source information such as maps and GIS files, with limited field review. An overview of natural resources present in the study area is provided in Attachment A2.

2.1 SURFACE STREAMS

Forty-three (43) streams are mapped in the study area with the Laurel River being the largest, followed by Robinson Creek and then Horse Creek (Attachment B8). One stream in the study

area is listed in the 2010 Kentucky Division of Water (KDOW) 305(b) and 303(d) integrated water quality report (KDOW, 2010a and 2010b), namely the Laurel River (segment river miles 26.3 to 33.7, Waterbody ID KY513263_03) that is listed as Not Supporting in Aquatic Life (WAH) and Fully Supporting for Primary Contact Recreation (305(b) Waters, Attachment B8). Causes for the non-supporting designation include iron and unknown indicators, with sources listed as unknown non-point source.

The Laurel River portion within the study area (river mile 25.2 to 30.1) is also listed in the 2010 303(d) list of impaired waters. A Watershed Plan has been developed by KDOW for the Laurel River watershed, and KDOW will pursue development of nutrient and organic enrichment total maximum daily loads (TMDLs) when nutrient targets are available.

Information from the Kentucky Division of Water indicates there are no Special Use Waters (cold water aquatic habitat, exceptional water, reference reach water, and outstanding state resource water; KDOW, 2008) in the vicinity of the study area.

A comprehensive stream survey and impact assessment, including evaluation of avoidance and minimization measures, will need to be conducted as this project further develops. Unavoidable impacts to streams will require coordination with the U.S. Army Corps of Engineers (USACE) and KDOW to determine Section 404/401 permitting and mitigation requirements.

2.2 FLOODPLAINS

Based on review of Flood Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), 100-Year floodplains occur at several locations in the northeast and central portions of the study area, all in Laurel County (FEMA, 2006a and 2006b; Attachment B9). Floodplains are associated with Laurel River and Robinson Creek, both crossing through the middle of the study area, and Horse Creek crossing the study area just north of the Knox County border. No floodways are mapped through these locations.

Coordination for subsequent transportation projects in mapped 100-year floodplain areas will be required with the Laurel County Floodplain Administrator (County Judge Executive David Westerfield, 101 South Main Street, London, KY, as of November 2012) and the Kentucky Division of Water, Surface Water Permits Branch, Floodplain Management Section to determine limitations on construction activities in these areas, and local and state permit requirements.

2.3 WETLANDS

A review of National Wetlands Inventory (NWI) data indicates that a total of 81 NWI-mapped wetlands are located throughout the study area (USFWS, 2013a; Attachment B10). The majority of the NWI mapped features (78) are identified as ponds, typically small farm ponds, landscape and recreational ponds or stormwater retention ponds readily observable in the landscape. Larger mapped wetlands present are forested (2 features along Robinson Creek) or riverine

(one feature, the Laurel River pool created by the Dorthae Dam just downstream of the study area).

NWI maps utilized aerial photo interpretation from high-altitude aerial photography to detect areas with apparent soil saturation or inundation. Large wetlands systems are usually obvious while smaller wetlands are more difficult to detect. NWI maps provide useful background information to identify areas with potential wetlands, though actual field conditions may differ. Observations made during field review indicated a limited potential for extensive wetland systems beyond those mapped as NWI wetlands due to the high degree of topographic relief throughout much of the study area. Unmapped wetlands within the study area would likely be limited to areas adjacent to Robinson Creek and the Laurel River or sporadically occurring wetlands of small size.

Comprehensive wetland surveys and impact assessments, including evaluation of avoidance and minimization measures, will need to be conducted for subsequent transportation projects. Unavoidable wetland impacts would require coordination with the USACE and KDOW to determine Section 404/401 permitting and mitigation requirements.

2.4 PONDS

Ponds within the study area are mapped as part of the NWI resources discussed above. The 78 identified features are predominantly diked or excavated ponds and are present throughout the study area. Recently constructed ponds (less than 10 years) are not included in the NWI-mapped resources and will most likely be present in locations which have experienced new home or commercial development since that time. Ponds observed within the study area included agricultural use farm ponds, stormwater retention ponds in residential and commercial developments, and residential recreational use ponds.

2.5 GROUNDWATER RESOURCES AND PUBLIC WATER SUPPLIES

2.5.1 Groundwater Resources

Groundwater, spring and water well information from the Kentucky Geologic Survey (KGS) and KDOW was reviewed for the study area. In general, groundwater resources in Knox and Laurel Counties derive primarily from the sandstones and shales of the Breathitt Group which underlie the valleys and form the hills throughout the area, and the Corbin and Rockcastle sandstone members of other formations which cap the tops of hills and ridges. Availability of groundwater is adequate for domestic use for about one-half to three-quarters of wells drilled in the sandstones and shales. Water is typically soft to moderately hard, and contains noticeable levels of iron (Kilburn et al, 1962, Attachment B11; Carey and Stickney, 2005a and 2005b).

Laurel and Knox Counties are mapped as having moderate sensitivity to groundwater pollution potential (Ray et al., 1994; Attachment B12). Underlying geology contains fissure networks and enlarged fractures throughout shales and sandstones, making this area susceptible to the

migration of contaminants into the underlying aquifer. The majority of Laurel County and all of Knox County are mapped as non-karst areas (see Section 1.4 and Attachment BB6).

Review of Kentucky Geologic Survey data (KGS, 2013b) indicate there are 26 water wells registered in the study area (Attachment B13). Of these, 8 are monitoring wells (31%), 14 are domestic use wells (54%) and 4 are unknown wells (15%). All of the monitoring wells are listed under underground storage tank (UST) regulatory authority, including remediation monitoring wells installed in 2010 and 2011.

One spring is mapped within the study area (KGS, 2013b), and an unnamed feature is located in Laurel County at the head of an unnamed tributary to Robinson Creek and south of KY 553. Based on available groundwater and bedrock geology data, the presence of springs is not considered to be common or widespread throughout the study area.

2.5.2 Public Water Supplies

The study area is served by two water utilities: Corbin Utilities Commission and Laurel County Water District #2. The Corbin Utilities Commission is the main supplier of treated drinking water in the area. Their water supply intake is located at the City Reservoir on the Laurel River Lake just upstream of the City of Corbin and several miles downstream of the study area. The Laurel County Water District #2 serves more rural areas, with a water supply intake located on the Laurel River downstream of the Robinson Creek confluence and just outside of the study area (KDOW, 2013b).

The study area includes portions of two Source Water Assessment and Protection (SWAP) areas (KDGI, 2012; Attachment B13), one for each of the two local water utilities. The SWAP areas overlap each other and include the Laurel River and Robinson Creek watersheds in Laurel County, covering the entire north half of the study area. Within the study area, the SWAP zones include contamination protection areas of Zone 2 (zone of responsibility) and Zone 3 (zone of potential impact) for Corbin Utilities Commission, and Zone 1 (critical zone, entire Laurel River watershed upstream of intake) for Laurel County Water District #2 (CVADD, 2003).

Any subsequent transportation projects will require coordination with the Cumberland Valley Area Development District (CVADD) and the local water utilities to identify requirements of the local pertinent SWAP Programs, limitations on construction activities that may be present, and local permit requirements. Construction activities may require the preparation of a Groundwater Protection Plan per 401 KAR 5:307.

2.6 THREATENED & ENDANGERED SPECIES

Information concerning federal and state endangered, threatened and special concern species and unique habitats in the project vicinity was obtained from the United States Fish and Wildlife Service (USFWS, 2013b), the USFWS Ecological Services Kentucky Field Office (USFWS,

2008a), the Kentucky Department of Fish and Wildlife Resources (KDFWR, 2013), and the Kentucky State Nature Preserves Commission (KSNPC, 2013).

The USFWS Ecological Services Kentucky Field Office reports 11 federal endangered, threatened and candidate species known or with the potential to occur in Knox and Laurel Counties, as of the last publication date of 2008 (Attachment B14). In addition, the bald eagle (*Haliaeetus leucocephalus*) is listed as known to occur in Laurel County.

The KDFWR indicates 8 state-listed species as being observed within the extent of the two USGS quadrangle maps that cover the study area, including 3 state-endangered, 1 state-threatened and 2 state-special concern species (Attachment B15). Two of the listed species also occurred on the USFWS species lists. A listing for observations within all of Knox and Laurel counties included 43 species.

Based on data received directly from KSNPC, there are 32 records-of-occurrence of state and federal listed species in or within 5 miles of the study area (Attachment B16). The KSNPC response covered a review area significantly larger than the current study area. This response indicates that four federal- and state-listed species, as well as the sensitive natural communities of Cumberland Plateau gravel/cobble bars and bottomland hardwood forests, are present in or near the current study area. Due to the sensitive nature of listed-species information, location information for these records is not included in this report.

2.6.1 Federal-Listed Species

Twelve (12) federal-listed species are known or have the potential to occur within the study area based on review of database information, including seven federal-endangered, two federal-threatened and three federal candidate species. These species include:

- ***Cumberland elktoe** (*Alasmidonta atropurpurea*), federal and state endangered mussel species known to occur in Laurel County with potential to occur in Knox County. Prefers medium size, low to moderate gradient, high quality streams usually in areas of near zero flow with cobble and/or boulder substrate with sand/gravel/mud mixtures (USFWS, KSNPC). Critical habitat for Cumberland elktoe has been designated in Laurel County, namely Sinking Creek, not within or in the vicinity of the study area (Attachment B17). Recorded presence in Laurel River.
- ***Blackside dace** (*Chrosomus cumberlandensis*; synonym *Phoxinus cumberlandensis*), federal and state threatened fish species known to occur in Knox and Laurel Counties. Found in small upland streams usually in pools that are well shaded by dense riparian vegetation and with cool (< 20 C) water much of the year. Stream widths range from 1 to 4 meters with depths to 1 meter, with substrates consisting of bedrock and rubble, some areas of silty sand, current moderate to sluggish, and often with considerable in-stream cover (KSNPC).

- **Cumberlandian combshell** (*Epioblasma brevidens*), federal and state endangered mussel species known to occur in Laurel County. Prefers medium to large, clear streams and rivers with clean-swept rubble, gravel and sand substrates (USFWS, KSNPC).
- **Oyster mussel** (*Epioblasma capsaeiformis*), federal and state endangered mussel species known to occur in Laurel County. Prefers medium to large rivers in shallow riffles or shoals of rubble, gravel and sand (USFWS).
- ***Cumberland arrow darter** (*Etheostoma sagitta sagitta*), federal candidate and state special concern fish species known to occur in Knox County. Inhabits small headwaters streams (intermittent and perennial) with rocky pools, runs and glides in areas with low to moderate flow, substrates of boulder, cobble and gravel with lesser amounts of interspersed sand (USFWS).
- **Gray bat** (*Myotis grisescens*), federal endangered and state threatened species with potential to occur in Laurel County. Primarily use caves throughout the year though smaller colonies also occasionally roost under bridge structures (USFWS, KSNPC).
- **Indiana bat** (*Myotis sodalis*), federal and state endangered species with potential to occur in Knox and Laurel Counties. In summer, found under exfoliating bark and in cavities of dead and live trees in upland and riparian forests, and wooded fencerows. In winter, found hibernating in caves and old mine portals (KDFWR).
- **Littlewing pearl mussel** (*Pegias fabula*), federal and state endangered mussel species known to occur in Laurel County. Prefers small to medium-size streams with cool water; found in pools and riffles on and sometimes buried in sand and gravel substrate or under large rocks (USFWS, KSNPC).
- ***White fringeless orchid** (*Platanthera integrilabia*), federal candidate and state endangered plant species known to occur in Laurel County. Found in partial shade or open seepage areas both wooded and herbaceous, including swamps, floodplains forests and seepage slopes (KNSPC).
- **Fluted kidneyshell mussel** (*Ptychobranthus subtentum*), federal candidate and state endangered mussel species known to occur in Laurel County. Apparently prefers smaller streams and rivers where it occupies clean swept rubble, gravel and sand substrates in shallow riffles and shoals with moderate to swift current (USFWS, KSNPC).
- ***Virginia spiraea** (*Spiraea virginiana*), federal and state threatened plant species known to occur in Laurel County. Found on riverbanks and boulder/cobble bars that periodically flood, creating scoured banks (KSNPC). Recorded presence along Laurel River.
- **Cumberland bean pearl mussel** (*Vilosa trabilis*), federal and state endangered mussel species known from Laurel County. Prefers small to medium size streams in sand or gravel with slow to moderate current (USFWS, KSNPC).

Species marked with an asterisk * indicate a KSNPC record in or within 5 miles of the study area.

Review of information provided in the Indiana Bat Mitigation Guidance for the Commonwealth of Kentucky (USFWS, 2008b) indicates that the study area does not occur within any specifically defined USFWS Indiana Bat Recovery and Mitigation Focus Areas (RMFA). No Indiana bat priority habitat occurs in the study area, with the nearest mapped locations identified as “Known Swarming (P3 and P4)” Indiana bat hibernacula zones located seven or more miles to the west and north (Attachment B17).

Several federal listed species have the potential to occur in the study area based on database records, habitat preferences and possible habitat presence, including Cumberland Elktoe (Laurel River), Indiana bat (wooded riparian and upland areas), white fringeless orchid (floodplain forests along Laurel River upstream of Dorthae Dam pool and along Robinson Creek) and Virginia spiraea (Laurel River upstream of Dorthae Dam pool). Specific habitat surveys may be required for subsequent projects which impact potential habitat for federal listed species. The need for and implementation of such surveys should be coordinated with the USFWS Kentucky Field Office on a project specific basis.

2.6.2 State-Listed Species

There are 25 known records-of-occurrence for state listed species in and within 5 miles of the study area (KSNPC response, Attachment B16). Information obtained from KDFWR and KSNPC together list five state-endangered species (in addition to those in the federal-listed section above), three state-threatened species, and seven state-special concern species as known or having the potential to occur in the vicinity of the study area, as summarized below along with their associated habitat requirements.

Species marked with an asterisk * indicate a KSNPC record in or within 5 miles of the study area.

2.6.2.1 State-Endangered

- ***Cumberland papershell** (*Anodontooides denigratus*); federal species of management concern; mussel species that inhabits sand, silt, mud, and small gravel often near cobble and boulders in pools and runs with slow current in small to medium-sized streams (KSNPC).
- ***Kentucky Lady’s-slipper** (*Cypripedium kentuckiense*); federal plant species of management concern; mesophytic forests on annually inundated floodplains of mid-sized or rarely large streams in sandy alluvium (KSNPC).
- ***Geometrid moth** (*Lytrosis permagnaria*); federal insect species of management concern; insect found in dry oak, oak-hickory, or scrub, sometimes with southern pines in canopy. May be restricted to old-growth areas (KSNPC).
- ***Crossleaf Milkwort** (*Polygala cruciata*); plant found in KY in swamps, bogs, edge of lowland woods (KSNPC).

- ***Narrowleaved bluecurls** (*Trichostema setaceum*); plant found in dry upland woods (oak-hickory), dry-moist old fields, and disturbed areas; also thin soils around rock outcrops and dry sandy soils (KSNPC).

2.6.2.2 State-Threatened

- ***St. Peter's-wort** (*Hypericum crux-andreas*); plant found in moist or dry sandy woods, meadows, barrens and pine flatwoods (KSNPC).
- ***Nuttall's lobelia** (*Lobelia nuttallii*); plant found in damp to dry sandy soil, wet meadows and sandy swamps (KSNPC).
- ***Yellow-crested orchid** (*Platanthera cristata*); plant found in dry to moist open soil, thickets, woods and bogs, moist open ephemeral stream heads, and pond margins (KSNPC).

2.6.2.3 State Special Concern

Seven state-listed special concern species are recorded as known or having the potential to occur in the vicinity of the study area according to KDFWR and KSNPC, as indicated below.

- ***Longclaw crayfish** (*Cambarus buntingi*);
- ***Sedge Wren** (*Cistothorus platensis*)
- ***Short's hedgehyssop** (*Gratiola viscidula*)
- **Least weasel** (*Mustela nivalis*)
- ***Curtis's goldenrod** (*Solidago curtisii*)
- ***Green comma** (*Polygonia faunus*); historical record
- ***Long-bract green orchis** (*Coeloglossum viride var. virescens*); extirpated from the state

The KSNPC response (Attachment B16) for this report specifically mentioned several ecological features in the vicinity of the study area that should be given special consideration during the implementation of any project. These features include:

- **Bottomland hardwood forests:** an ecological community of special concern recorded in southeast of the study area in Knox County along a small perennial stream, similar to portions of Robinson Creek at the east side of the study area.
- **Cumberland Plateau gravel/cobble bar:** an ecological community known within the Laurel River below the Dorothea Dam and containing several plant species considered globally significant, such as the federal-threatened *Virginia spiraea*, and that can be adversely impacted by disturbance within the watershed that alters the normal stream flow or water quality. A through search of suitable habitat by a qualified botanist is recommended along any suitable stream features that may be disturbed or impacted.
- **Sensitive aquatic species:** Several rare aquatic organisms and habitats in the vicinity are sensitive to increased turbidity, sediment and other adverse influences on water quality, with particular mention of blackside dace and Cumberland arrow darter. Impacted streams should be surveyed for these species prior to any in-stream disturbance and a written

erosion control plan be developed that includes stringent erosion control methods. None of the specified sensitive aquatic species have been recorded in the study area.

2.7 WOODLAND HABITATS

Woodland habitats comprise approximately 15 percent of the study area (see discussion in Section 1.2 and Attachment B1). Woodlands occur across steep slopes and drainage feature corridors. Large, continuous tracts of woodland stretch across the landscape to the northeast (steep slopes and ridges), southwest (Laurel River corridor) and south end (drainage features) of the study area. Woodland habitats in the study area and vicinity are not considered to be significant natural (tourism, hunting, camping) or economic (forestry products) resources.

Woodland habitat in the study area was observed during field review activities and found to be predominantly an oak-hickory mix along ridgetops and upper level slopes, changing to an oak-maple then to a beech-oak mix at lower elevations. Several portions of mapped woodland habitat have been more recently impacted through development, selective cutting/harvesting and heavy storm damage related to tornado activity reported in the area during 2012.

Knox and Laurel Counties are located within the Appalachian Forest Priority Area as identified in the Kentucky Statewide Assessment of Forest Resources (Third Rock Consultants, LLC, 2010). However, woodland habitats in the vicinity of the study area are not included in the specifically identified Forest Legacy Areas (as defined in the report) or in the Cumberland/Pine Mountain Conservation Area. No specific regulations concerning the clearing of woodland habitats are currently in force in the study area. The forest resource assessment report does recommend the reduction of forest fragmentation or minimization of the impact of fragmentation caused by roadway projects through the expansion of existing right-of-ways versus creating new roadway alignments.

2.8 PUBLIC PARKS – SECTION 4(F) AND SECTION 6(F) FACILITIES

Based on review of secondary source information (GIS layers such as Kentucky local parks, ESRI statewide and nation-wide parks, and USGS Geographic Names Information Systems) and available mapping (such as aerial photography, USGS topographic maps and Google Maps), no public parks (Section 4(f) resources) are located in the study area (KDGI, 2007b; KYTC, 2013a; USGS, 1970a and 1970b). No state or federal managed areas, parks, forests or preserves (other Section 4(f) resources) occur within the study area. No facilities in the study area were identified as having received Land and Water Conservation Fund (LWCF) grants (Section 6(f) resources; NPS, 2013).

One facility in the study area was identified during field review as a potential Section 4(f) concern. An athletic facility is located on Lily School Road that includes a baseball field and a running track. Signage at the facility indicates it is privately owned (by the Lily Baptist Church) but is open for public use. Privately owned facilities are not subject to Section 4(f) regulations.

Additional coordination with Lily Baptist Church should be undertaken to determine the Section 4(f) status of this facility if it were to be impacted by any subsequent roadway projects.

3.0 HUMAN ENVIRONMENT

Through review of secondary source information (including ESRI, 2012; USGS, 1970a and 1970b), the following social and economic resources were identified in the study area (Attachment A3):

3.1 SOCIAL AND ECONOMIC RESOURCES

Cemeteries – Four cemeteries are mapped in the study area. Three are shown only on USGS topographic maps indicating they may be historical or are small, unnamed cemeteries which often occur as family burial plots or associated with small, rural churches. The cemeteries identified during field review include:

- Cumberland Memorial Gardens, US 25, Lily
- Horse Creek Church Cemetery, Horse Creek Road, Laurel County
- Lynn Camp Cemetery, KY 2412 (Lynn Camp Church Road), Knox County
- Unnamed family cemetery, KY 552, Lily (confirmed extant)

Churches/Houses of Worship – Seven houses of worship are present in the study area, located along rural roads as well as around the community of Lily. The facilities verified during field review include:

- Horse Creek Church, Horse Creek Road, Laurel County
- Lily Missionary Baptist Church, 267 Lily School Road, Lily
- Lily Church of Christ, KY 552, Lily
- Lily Holiness Church, US 25, Lily
- Lynn Camp Church, Lynn Camp Church Road, Knox County
- Oak Ridge Church, Oak Ridge Church Road, Laurel County
- Redemption Tabernacle, KY 552, Lily

Fire Departments and Emergency Services – One fire department is mapped in the study area, though there are no emergency operations centers:

- Lily Fire Station #1, 4034 KY 552, Lily

Hospitals – No hospitals are mapped in the study area.

Law Enforcement – No law enforcement facilities are mapped within the study area.

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Schools, Institutions and Learning Centers – Two schools are mapped as occurring in the study area, including:

- Cornerstone Christian School, 420 Lily School Road, Lily
- Hunter Hills Elementary School, 8325 US 25, Laurel County

Industrial Parks – No industrial parks are located in the study area. The Southeast Kentucky Regional Business Park and the Tri-County Industrial Park are both located just south of the study area along existing Corbin Bypass. Industrial facilities present in study area include Aisin Automotive Castings, R.C. Miller Oil distributors and several additional facilities along US 25 north of Lily.

Federal Facilities – No federal facilities or federal government owned lands are mapped in the study area.

Golf Courses – One golf course is located in the study area, including:

- Sweet Hollow Golf Course, 424 Sweet Hollow Road, Laurel County

Environmental Justice – Basic population data for the study area and vicinity was derived from U.S. Census 2010 data, Census Tracts 9304 (Knox County), and 9710.01 and 9710.02 (Laurel County). Additional demographic and economic characteristics of the population in the study area vicinity will be provided by the Cumberland Valley Area Development District separately.

Base Population Data (Census 2010, Summary File 1 and 2)

	Knox County	Laurel County		Knox County	Laurel County	Kentucky
Census Tract	9304	9710.01	9710.02			
Total Population	7,670	3,654	6,483	31,883	58,849	4,339,367
Minority	191 (2.5%)	103 (2.8%)	193 (3%)	916 (2.9%)	1737 (3%)	529,830 (12.2%)

The total population of the study area vicinity was 17,807 in 2010, with a minority population percentage of 2.7, consistent with all of Knox and Laurel Counties but significantly less than the state as a whole (12.2% minority population). This data is consistent with environmental justice mapping provided by the USEPA's EJView website (USEPA, 2013), that indicates the study area and vicinity had a percent minority population of 0-10% (Attachment B18).

The USEPA EJView site indicated the census tracts in Laurel County had a mapped percentage population below poverty level of 10-20%, and the census tract in Knox County had a mapped level of 30-40%. As a whole, Knox and Laurel Counties are mapped as having a percentage population below poverty level of 10-20%, with surrounding counties being 10-20% or 20-30% (Attachment B18).

3.2 ARCHAEOLOGICAL AND CULTURAL HISTORIC RESOURCES – SECTION 106 AND SECTION 4(F) RESOURCES

Information concerning archaeological and cultural historic resources in the vicinity of the project study area was provided by Cultural Resource Analysts, Inc. (CRA). CRA conducted a records review of the study area to identify previous archaeological and cultural historic resource survey areas and previously recorded archaeological or cultural historic sites. Additional information concerning cultural resources that could be expected and a context for cultural resources recovered from the study area was also provided.

No National Register of Historic Places (NRHP) listed archaeological or cultural historic sites are situated in the study area. The full records review report is provided in Attachment C of this report.

3.2.1 Archaeological Resources

One prehistoric archaeological site has been documented within the study area, located near the confluence of Robinson Creek and Laurel River. Only a small portion of the study area has been previously surveyed for archaeological resources. CRA recommends that an archaeological survey be conducted for all portions of the study area that will be impacted by subsequent transportation projects and that have not been previously surveyed. In addition, if the one recorded archaeological site cannot be avoided by a subsequent transportation project, an archeological evaluation will be required to assess its eligibility for inclusion in the NRHP.

3.2.2 Cultural Historic Resources

No previously recorded cultural historic sites are located within the study area. However, CRA is currently completing a cultural historic baseline survey along US 25 through the study area. The US 25 review within the study area has identified 93 cultural historic sites, with one of those sites being recommended eligible for listing in the NRHP. Historic maps of the study area indicate that a large number of properties over 50 years in age are located throughout the remainder of the study area. CRA recommends that a cultural historic baseline survey be conducted of the study area that will be impacted by subsequent transportation projects not included within the current US 25 review area.

3.3 HAZARDOUS MATERIALS CONCERNS

Properties with hazardous material concerns were identified through review of readily available state and federal database records. Federal and state regulatory database records research was provided in part by Environmental Data Resources, Inc. (EDR, 2013), in addition to a review of the Kentucky Statewide Underground (UST) Database Report (KDWM, 2011b), Kentucky Solid Waste Facilities GIS information (KDWM, 2011a), and USEPA Envirofacts Data Warehouse information (2012a).

Records of most concern which were identified include one SHWS (State Hazardous Waste Sites, Superfund equivalent), three US MINES (mining permits), three EDR US Hist Auto Stat (historical auto station records), one HIST LF (historical landfill) site, one RCRA INFO (USEPA RCRA listed) site, and 14 UST (Underground Storage Tank) sites.

3.3.1 USEPA and State Regulated Sites

The occurrence of USEPA regulated sites and incident reports in the vicinity of the study area was determined through review of the USEPA Envirofacts Data Warehouse (USEPA, 2012a) and the EDR (2013) regulatory database search of the following databases:

USEPA NPL (National Priority List-Active and Delisted); CERCLIS (Comprehensive Environmental Response Compensation and Liability Information System – Superfund); NFRAP (CERCLIS Archived Sites); RCRA (Resource Conservation and Recovery Act: Generators, Corrective Action, Treatment Storage and Disposal Facilities); Brownfields; ACRES (Assessment, Cleanup and Redevelopment Exchange System); AIRS/AFS (Aerometric Information Retrieval System/AIRS Facility Subsystem); Biennial Reporting; PCS (Permit Compliance System); and TRI (Toxics Release Inventory).

STATE SHWS (State level Superfund); SWL (Permitted Operating Landfills); LUST (Senate Bill 193 and PSTEAF); Brownfields, and CDL (Clandestine Drug Labs).

Review of data indicated the following USEPA and State regulated facilities are present in the study area. See Attachment B19 for a listing of identified facilities in addition to those highlighted below:

RCRA (Resource Conservation and Recovery Act; Hazardous Materials Generators, Corrective Actions, Treatment Storage or Disposal Facilities): one record of inactive RCRA operation:

- Stallion Oil Company, Jenny Lane (at Oak Ridge Road), Corbin; unspecified activities, inactive since 2008. The site was observed to contain a large above ground storage tank marked “Used Oil” at a location storing old trailer homes in various states of disrepair.

SHWS (State Hazardous Waste Sites, Kentucky Superfund equivalent): one record of facility listed for cleanup:

- DG Trucking, 1282 Robinson Creek Road, Lily; also having a HIST LF (historic landfill) record, closed since 2007; record of petroleum cleanup due to waste oil discharge, site restored. The site was identified as a gravel lot for industrial equipment storage and adjacent ground clearing present during field review.

AIRS (Aerometric Information Retrieval System): three records of facilities with federally registered permits to discharge pollutants to the air are mapped as occurring within the study area.

3.3.2 Underground Storage Tanks

The occurrence of Underground Storage Tanks (USTs) within the study area boundaries was determined through a review of state UST (KDWM, 2011b) and State Petroleum Cleanup LUST (Leaking Underground Storage Tank; EDR, 2013) databases. The database and field reviews identified five UST sites (15 total records; Attachment B20) and no LUST sites (Attachment B21) located in the study area. All UST sites are located in Laurel County along US 25. One additional UST site is immediately adjacent to the south terminus of the study area at the southeast corner of US 25E and KY 3041.

Three historical auto station records were identified in the study area, which indicate the possible presence of UST's that were installed and/or abandoned prior to effective record keeping by state regulating authority. None of these three sites was positively identified during field review of the study area.

A Phase I survey for UST's will need to be conducted if subsequent transportation projects should impact any of these properties.

3.3.3 Oil and Gas Wells

Oil and gas well locations in the vicinity of the study area were identified through review of information from the Kentucky Geological Survey, Geologic Information Service (KGS, 2013c). Two active oil and gas wells are located within the study area, located at the Sweet Hollow Golf Course around Horse Creek and permitted in 1991. Each is in active production of gas and their presence and production activity was verified by employees of the golf course during field review (Attachment A3).

3.3.4 Landfills

Review of information from Kentucky Environmental and Public Protection Cabinet, Division of Waste Management (KDWM), Solid Waste Branch indicated that there are no active solid waste facilities in the study area (KDWM, 2011a). However, the Laurel Ridge Landfill, an active, contained landfill, is located at the northwest corner of the study area adjacent to I-75. This facility is accessed via Line Creek Road directly from the study area. This facility also includes the nearest located CERCLIS record, one of the three AIRS records, and multiple US MINES records. All operational aspects of this facility are located outside and down-gradient of the study area.

3.4 AGRICULTURE

Review of 2007 Agricultural Census data from the United States Department of Agriculture (USDA) indicates that Knox County is ranked 99th and Laurel County 70th out of Kentucky's 120 counties in agricultural production value, with livestock exceeding crop values by factors of two (Laurel County) or three (Knox County) (USDA, 2007a and 2007b). The agricultural practices having the largest value in sales include nursery commodities (Laurel County) and grains/oilseeds/dry beans (Knox County). The top crop item, by acre, in both counties is forage, consistent with the high value and numbers of livestock reported.

Review of soil data information for the project study area (USDA, 2012b and 2012c) indicated that prime farmland soils cover approximately 52 percent of the study area (Attachment B22), nearly all located in Laurel County. Substantial portions of these soils are not in agricultural land uses; instead they are in areas that have been developed in residential and commercial land uses along US 25 and in the small community of Lily.

Aerial photography review (USDA-FSA, 2012) indicated that agricultural lands are dispersed throughout the study area, though they are more prevalent between I-75 and US 25, south of Lily, along State Route 1223 just north of the Knox County border, and just north of US 25E at the south end of the study area. Large, continuous tracts of farmland are not typical in Knox and Laurel Counties due to the topographical limitations of undeveloped level land.

Subsequent transportation projects affecting existing farmland will require coordination with the local NRCS office regarding the completion of Farmland Conversion Impact Rating assessments and the evaluation of potential impacts to the agricultural economy and prime farmland soils.

3.5 MINING

The presence of mines or quarries in the study area was investigated through review of information from the Kentucky Department for Natural Resources (Division of Mine Permits, Division of Mine Reclamation and Enforcement, and Division of Abandoned Mine Lands; KDNR, 2013), Kentucky Geological Survey (KGS, 2013a) and review of USGS mapping and aerial photography.

Review of secondary source information indicated no active mines are located in the study area (KMMI, 2013). Two mine shafts mapped within the study area are consistent with mapped mine locations shown on USGS mapping. These locations, both on hillsides above Robinson Creek, may be underground mine entrances and appear to be in areas of historic leveling or grading activities. No evidence of active mining operations was observed at any of the mapped mine locations during field review. Multiple closed, expired or abandoned mine permits are mapped in the study area (Attachment A3).

The Kentucky Division of Abandoned Mine Lands indicates there are several mined out lands in and adjacent to the study area. Within the study area, several small patches occur on and near the Laurel Ridge Landfill at the northwest corner, consistent with USGS mapping labeled as “strip mines” (USGS, 1970a), though that mapping shows a greater extent of strip mining in the area. Areas labeled as mined out or former strip mine were observed to be primarily covered with pasture or open field herbaceous cover during field survey.

3.6 AIR QUALITY AND NOISE

3.6.1 Air Quality

Review of available USEPA Green Book data (USEPA, 2012b) indicated Knox and Laurel Counties and the surrounding areas are not listed for any criteria pollutants. The Kentucky Transportation Cabinet (KYTC), Division of Planning’s Air Quality Modal Program does list Knox and Laurel County as an Air Quality Maintenance Area for *8-Hour Ozone* as of July 2012 (KYTC, 2013b).

A review of the FHWA air quality checklist indicates the following conditions currently exist for criteria pollutants in regards to subsequent transportation projects in the study area:

Carbon Monoxide (CO): Current average daily traffic (ADT) on roads in and around the study area include 14,100 vehicles per day on US 25 at Lily, 17,300 vehicles per day on US 25E at KY 3041, and 44,300 on I-75 at KY 552. Subsequent projects most likely will not meet the criteria requiring a CO project level analysis (a signalized intersection with an ADT greater than 80,000) and most likely will not produce a project violation of the CO standards.

Lead: There is no air quality concern regarding Lead (Pb) for the study area, as all areas in Kentucky are in attainment.

Nitrogen Dioxide (NO₂): There is no air quality concern regarding Nitrogen Dioxide (NO₂) for the study area, as all areas in Kentucky are in attainment.

8-Hour Ozone (O₃): The study area is located in an Ozone attainment area and this pollutant is not a project-level concern.

Sulfur Dioxide (SO₂): There is no air quality concern regarding Sulfur Dioxide (SO₂) for the study area, as all areas in Kentucky are in attainment.

Particular Matter (PM_{2.5}): The study area is located in PM_{2.5} attainment area and this pollutant is not a project-level concern, and the conformity procedures of 23 CFR 770 do not apply.

Mobile Source Air Toxics (MSATs): A new bypass route in the study area would most likely require a Qualitative Analysis and an Uncertainty Assessment for MSATs, as it would

not fall under a Categorical Exclusion or a Conformity Regulation Exempt Project under existing regulations.

3.6.2 Noise

Noise-sensitive receptors, as identified per KYTC's Noise Analysis and Abatement Policy (KYTC, 2011), are present throughout the study area, including specified activity categories (land uses) of:

Category B Residential areas, exterior;

Category C & D Active sport areas, cemeteries, places of worship, Section 4(f) sites, schools, exterior and interior;

Noise sensitive receptors are mapped individually as identified resources (Category C & D) or as a developed neighborhood by a larger oval marking (residential areas) on Attachment A3. Project- specific traffic noise impact analyses may need to be conducted to identify and mitigate traffic noise impacts as subsequent transportation projects are developed.

3.7 ADDITIONAL ITEMS OF CONCERN

3.7.1 Railroad Line

An active CSX railroad line runs from southwest to northeast through the study area, paralleling the path of the Laurel River and passing through the community of Lily. Existing roadways cross the railroad line by narrow underpasses (Underpass Road in Lily, Fariston Road at US 25 at north end of study area and Water Plant Road at Robinson Creek Road) or at-grade crossings (KY 552 at north end of study area).

3.7.2 Water Treatment Plant

The Laurel Water District #2 operates a water treatment plant located on Water Plant Road at the Laurel River, in the southwest corner of the study area. The facilities water intake is located just south of the facility near the Dorthae Dam on the Laurel River, adjacent to the study area.

3.7.3 Utility Infrastructure

Several additional facilities related to utility infrastructure were observed in the study area during field review, including:

- Electrical substation located on Watch Road at Lynn Camp Church Road in Knox County;
- Small electrical substation located on Greta Lane at the north end of the study area;
- Water tower located behind industrial plant off Greta Lane at the north end of the study area;

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- Two cellular towers located along S. Old Whitely Road near I-75 in Laurel County.

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ENVIRONMENTAL OVERVIEW

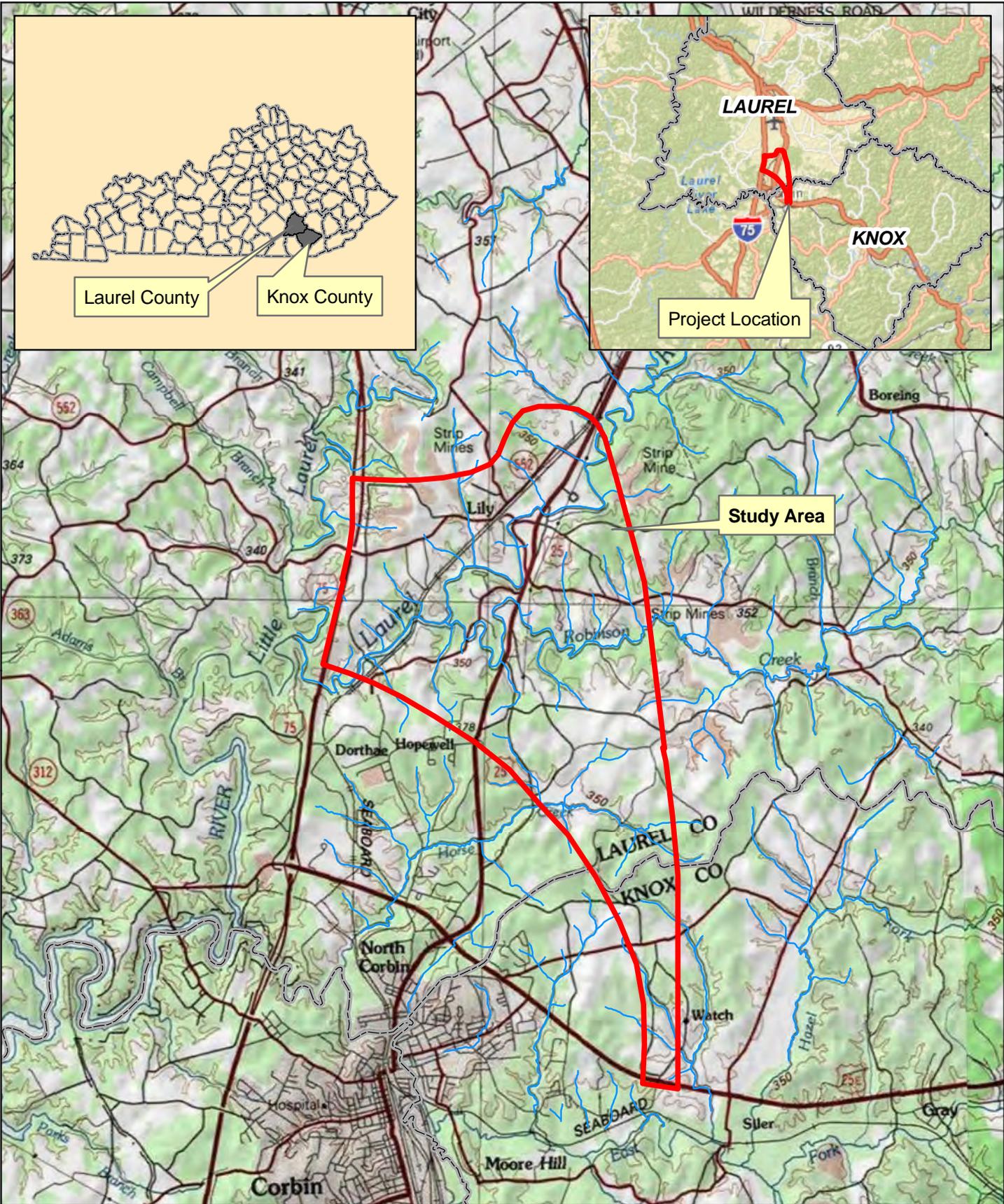
Corbin Bypass (KY 3041) Extension Study
Knox and Laurel Counties, Kentucky
KYTC Item #11-190.00

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ATTACHMENT A

- A1. Project Location Map**
- A2. Environmental Footprint, Natural Environment**
- A3. Environmental Footprint, Human Environment**
- A4. Environmental Footprint on USGS Base**



1 in = 1 miles

April 2013

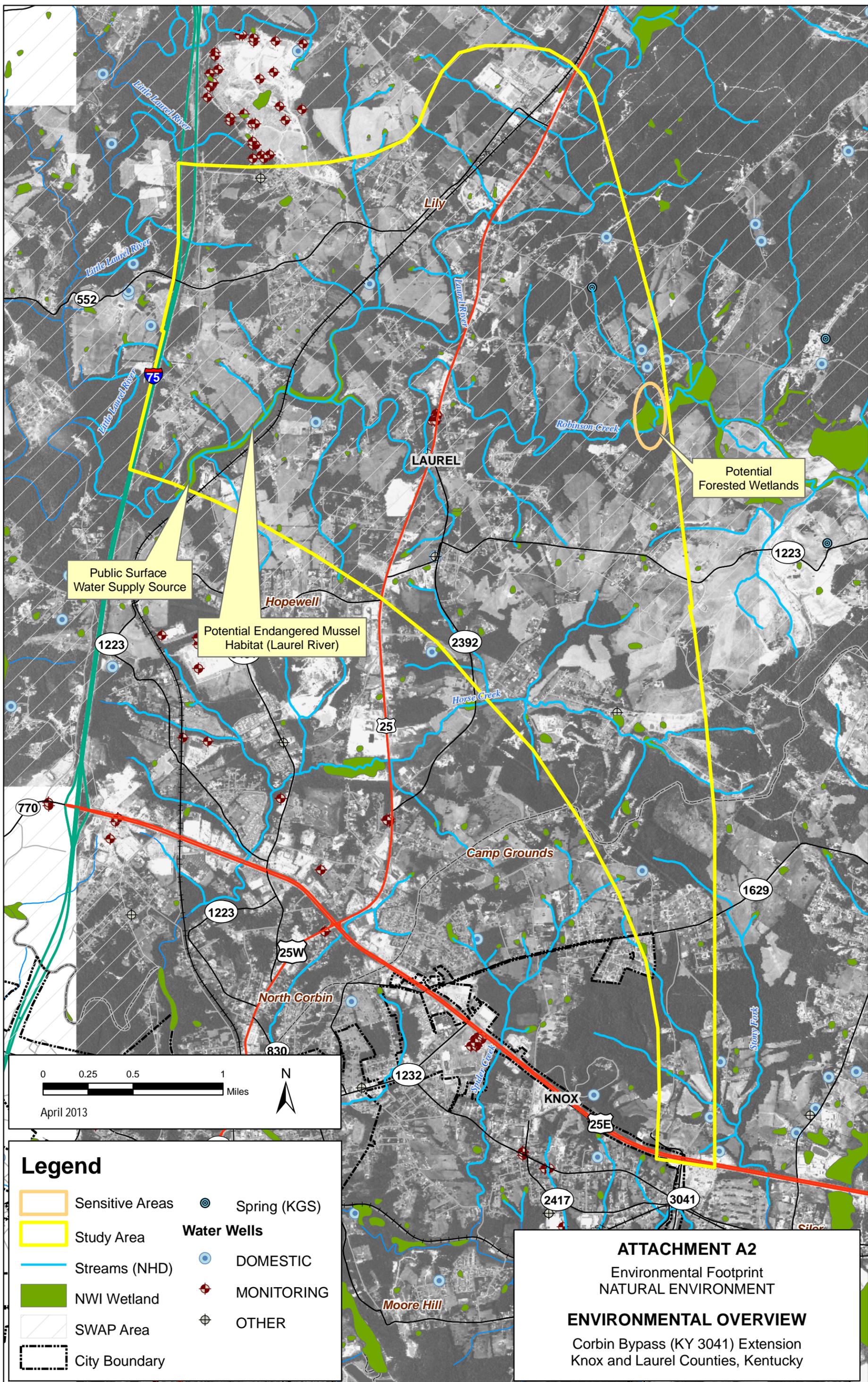


Corbin Bypass (KY 3041) Extension

KYTC Item #11-190.00
Knox and Laurel Counties

Attachment A1

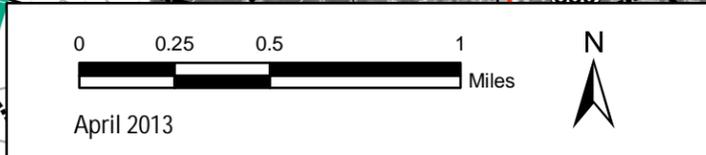
**Project Location
Map**



Public Surface
Water Supply Source

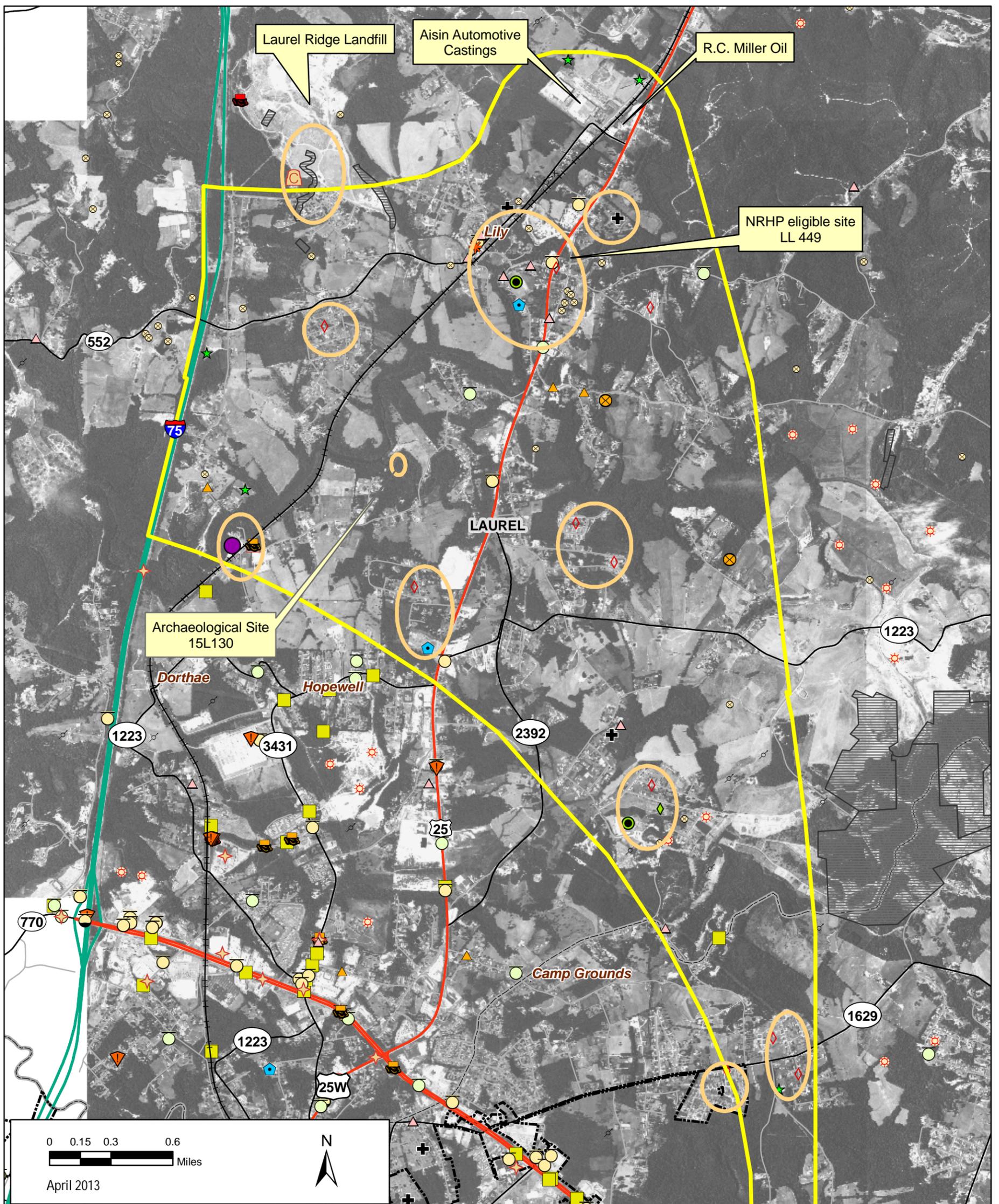
Potential Endangered Mussel
Habitat (Laurel River)

Potential
Forested Wetlands



Legend			
	Sensitive Areas		Spring (KGS)
	Study Area	Water Wells	
	Streams (NHD)		DOMESTIC
	NWI Wetland		MONITORING
	SWAP Area		OTHER
	City Boundary		

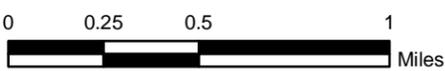
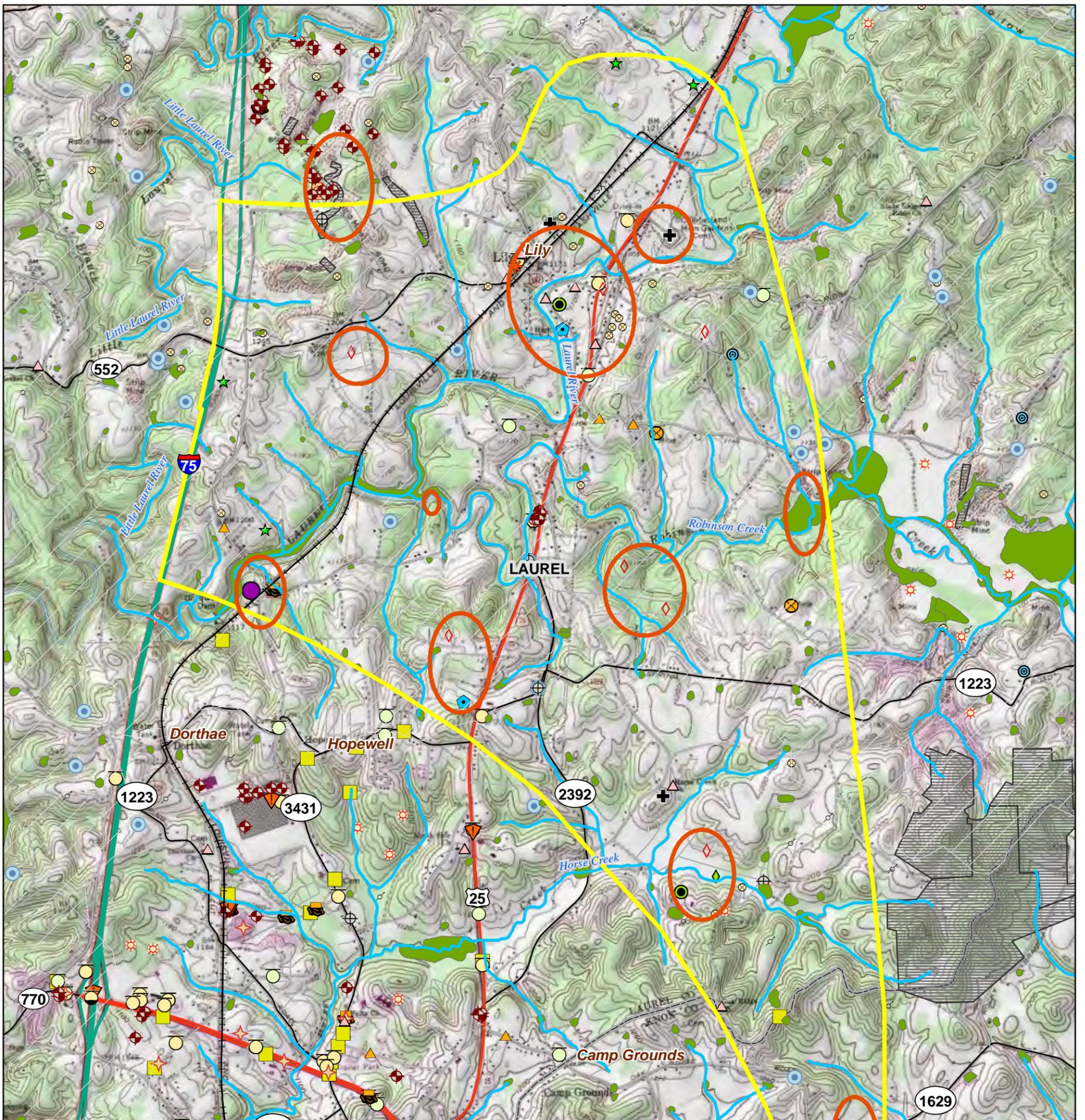
ATTACHMENT A2
 Environmental Footprint
 NATURAL ENVIRONMENT
ENVIRONMENTAL OVERVIEW
 Corbin Bypass (KY 3041) Extension
 Knox and Laurel Counties, Kentucky



Legend					
	Sensitive Areas		CERCLIS		Water Treatment
	Study Area		AIRS		UST
	City Boundary		Hist Auto Station		USEPA Wastes Record
	Cemetery		ERNS	Mine Permits	
	House of Worship		HIST LF		Active
	Golf Course		LUST		Other
	Neighborhood		RCRA		Mined Out Area
	Recreation		SHWS	Oil & Gas Wells	
	School		SWF/LF		Active
	Underground Mine		Fire Department		Other
	Utility				

ATTACHMENT A3
 Environmental Footprint
 HUMAN ENVIRONMENT

ENVIRONMENTAL OVERVIEW
 Corbin Bypass (KY 3041) Extension
 Knox and Laurel Counties, Kentucky



April 2013



Legend

- | | | |
|----------------------------|---------------------|---------------------|
| Sensitive Areas | Cemetery | CERCLIS |
| Study Area | House of Worship | AIRS |
| City Boundary | Golf Course | Hist Auto Station |
| Streams (NHD) | Neighborhood | ERNS |
| NWI Wetland | Recreation | HIST LF |
| SWAP Area | School | LUST |
| Spring (KGS) | Underground Mine | RCRA |
| Water Wells | Utility | SHWS |
| DOMESTIC | Fire Department | SWF/LF |
| MONITORING | Water Treatment | Mine Permits |
| OTHER | USEPA Wastes Record | Active |
| Oil & Gas Wells | UST | Other |
| Active | | Mined Out Area |
| Other | | |

ATTACHMENT A4

Environmental Footprint
Sensitive Areas on USGS Base

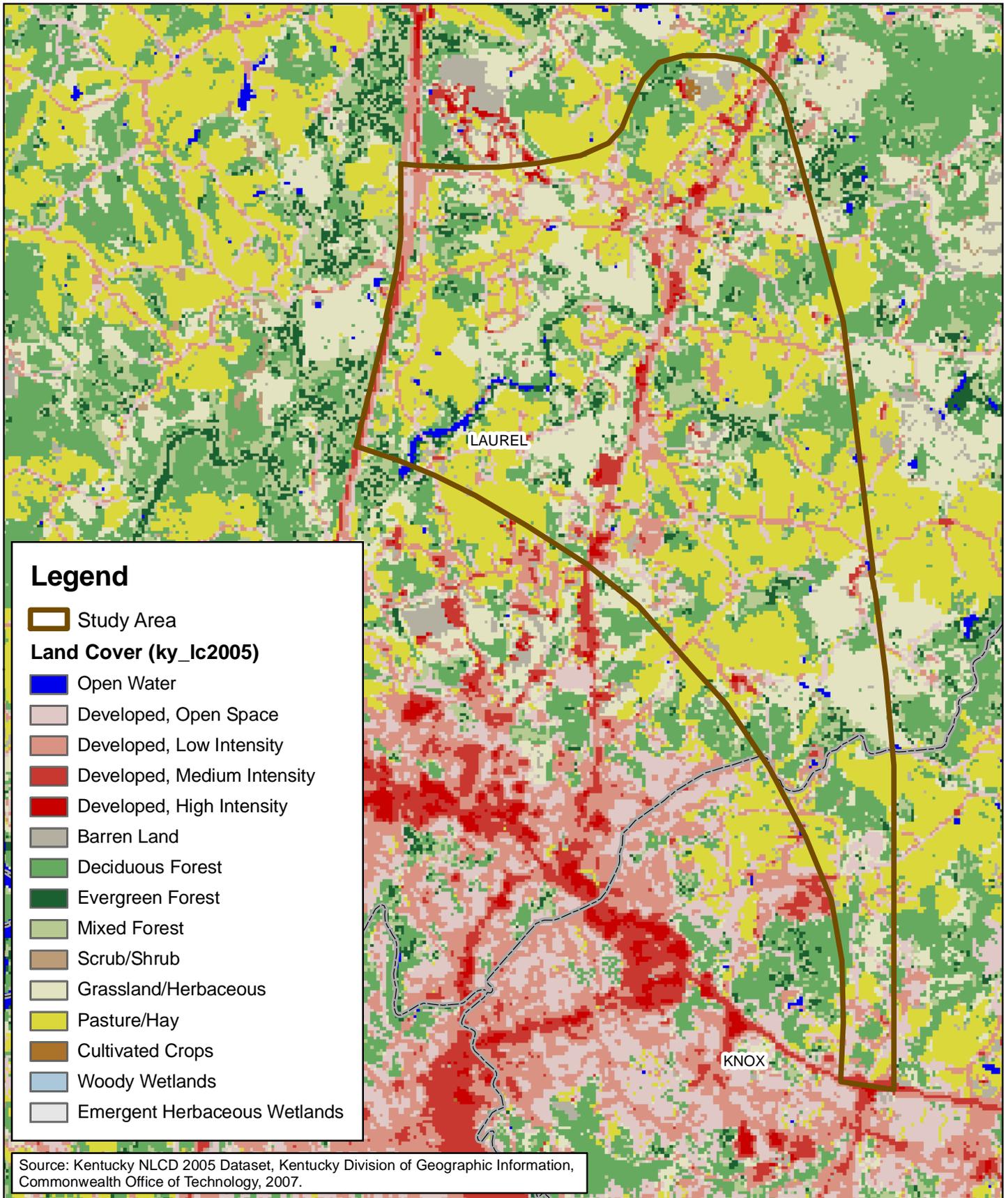
ENVIRONMENTAL OVERVIEW

Corbin Bypass (KY 3041) Extension
Knox and Laurel Counties, Kentucky

ATTACHMENT B

Supplemental Information

- B1. Land Cover (2005 Land Cover Dataset)**
- B2. Physiographic Regions of Kentucky**
- B3. Ecoregions of Kentucky**
- B4. Topography**
- B5. Geologic Maps (Knox and Laurel Counties)**
- B6. Laurel County Karst Areas**
- B7. Hydric Soils**
- B8. Watersheds and Mapped Streams**
- B9. 100-Year Floodplains and Floodways**
- B10. NWI-Mapped Wetlands**
- B11. Availability of Ground Water in Bell, Clay, Jackson, Knox, Laurel, Leslie, McCreary, Owsley, Rockcastle and Whitley Counties, Kentucky; HA-38**
- B12. Groundwater Sensitivity Regions of Kentucky**
- B13. Groundwater Resources and Public Water Supplies**
- B14. USFWS Kentucky Ecological Services Field Office List of Endangered, Threatened, & Candidate Species in Knox County and Laurel County, Kentucky**
- B15. KDFWR List of State-Listed Species on Corbin and Lily quads**
- B16. KSNPC Response April 2, 2013**
- B17. Known Threatened & Endangered Species Habitat in Project Vicinity**
- B18. UST Records List Summary**
- B19. *Environmental Data Resources*, The EDR Radius Atlas™ with GeoCheck® Report (excerpt)**
- B20. USEPA Regulated Facilities Listing**
- B21. Prime and Other Important Farmland Soils**



April 2013

Corbin Bypass (KY 3041) Extension

KYTC Item #11-190.00
Knox and Laurel Counties

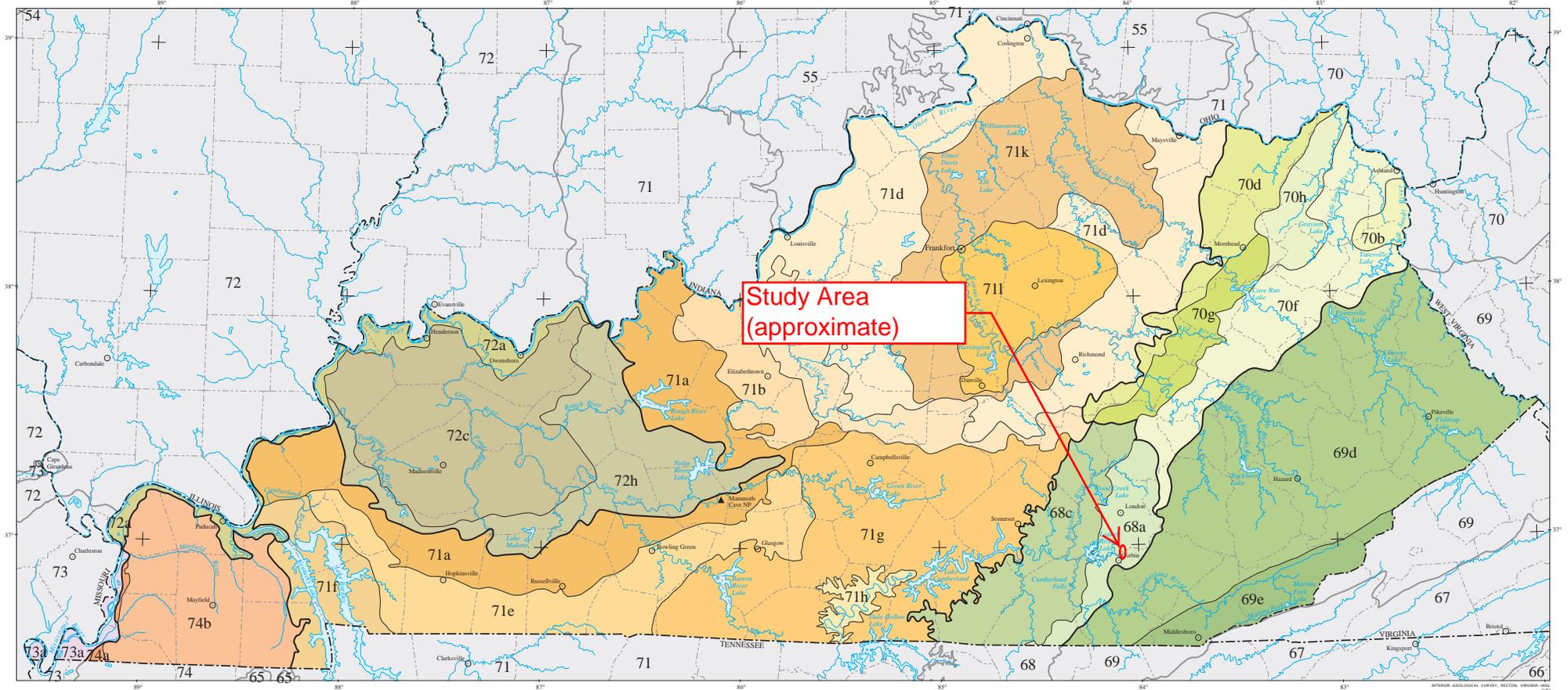
Attachment B1

Land Cover

Physiographic Regions of Kentucky



Ecoregions of Kentucky



PRINCIPAL AUTHORS: Alan J. Woods (Dynamac Corporation), James M. Omernik (USEPA), William H. Martin (Division of Natural Areas, Eastern Kentucky University), Greg J. Pond (KDEP, Division of Water, Water Quality Branch), William M. Andrews (Kentucky Geological Survey), Sam M. Call (KDEP, Division of Water, Water Quality Branch), Jeffrey A. Comstock (Indus Corporation), and David D. Taylor (USFS).

COLLABORATORS AND CONTRIBUTORS: Terry Anderson (KDEP, Division of Water, Water Quality Branch), John Brumley (KDEP, Division of Water, Water Quality Branch), Julian Campbell (The Nature Conservancy), Thomas R. Loveland (USGS), Jim Harrison (USEPA), and Mike Mills (KDEP, Division of Water, Water Quality Branch).

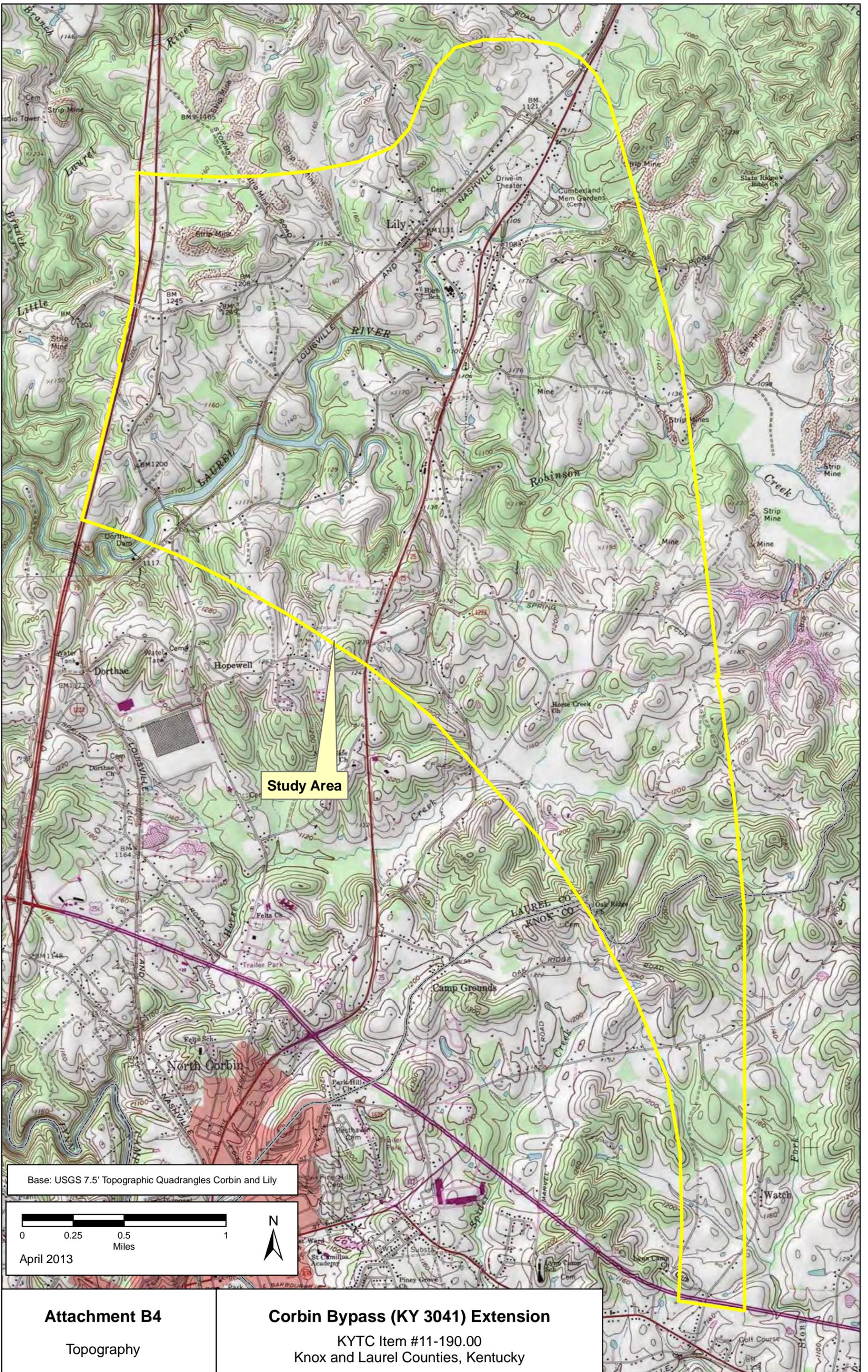
REVIEWERS: Mike Barbour (Tetra Tech), William S. Bryant (Professor, Department of Biology, Thomas More College), H.R. DeSelm (Emeritus Professor, Department of Botany, University of Tennessee, Knoxville), and Clara Leuthart (Chair and Associate Professor, Department of Geosciences, University of Louisville).

CITING THIS POSTER: Woods, A.J., Omernik, J.M., Martin, W.H., Pond, G.J., Andrews, W.M., Call, S.M., Comstock, J.A., and Taylor, D.D., 2002, Ecoregions of Kentucky (color poster with map, descriptive text, summary tables, and photographs): Reston, VA., U.S. Geological Survey (map scale 1:1,000,000).

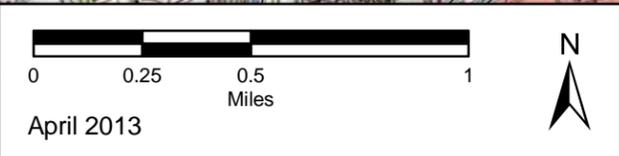
This project was partially supported by funds from the USEPA's Office of Research and Development through USEPA Region IV's Regional Ecological Assessment Program (REAP) via contract 68-D-01-0005 to Dynamac Corporation.

<ul style="list-style-type: none"> — Level III ecoregion — Level IV ecoregion - - - County boundary - - - State boundary - - - International boundary 	<p>68 Southwestern Appalachians</p> <ul style="list-style-type: none"> 68a Cumberland Plateau 68c Plateau Escarpment 	<p>71 Interior Plateau</p> <ul style="list-style-type: none"> 71a Crawford–Mammoth Cave Uplands 71b Mitchell Plain 71c Knobs–Norman Upland 71d Outer Bluegrass 71e Western Pennyroyal Karst Plain 71f Western Highland Rim 71g Eastern Highland Rim 71h Outer Nashville Basin 71k Hills of the Bluegrass 71l Inner Bluegrass
	<p>69 Central Appalachians</p> <ul style="list-style-type: none"> 69d Dissected Appalachian Plateau 69e Cumberland Mountain Thrust Block 	<p>70 Western Allegheny Plateau</p> <ul style="list-style-type: none"> 70b Monongahela Transition Zone 70d Knobs–Lower Scioto Dissected Plateau 70f Ohio/Kentucky Carboniferous Plateau 70g Northern Forested Plateau Escarpment 70h Carter Hills
		<p>73 Mississippi Alluvial Plain</p> <ul style="list-style-type: none"> 73a Holocene Meander Belts
		<p>74 Mississippi Valley Loess Plains</p> <ul style="list-style-type: none"> 74a Bluff Hills 74b Loess Plains

Albers Equal Area Projection
Standard parallels 37° N and 39° N



Base: USGS 7.5' Topographic Quadrangles Corbin and Lily



Attachment B4
Topography

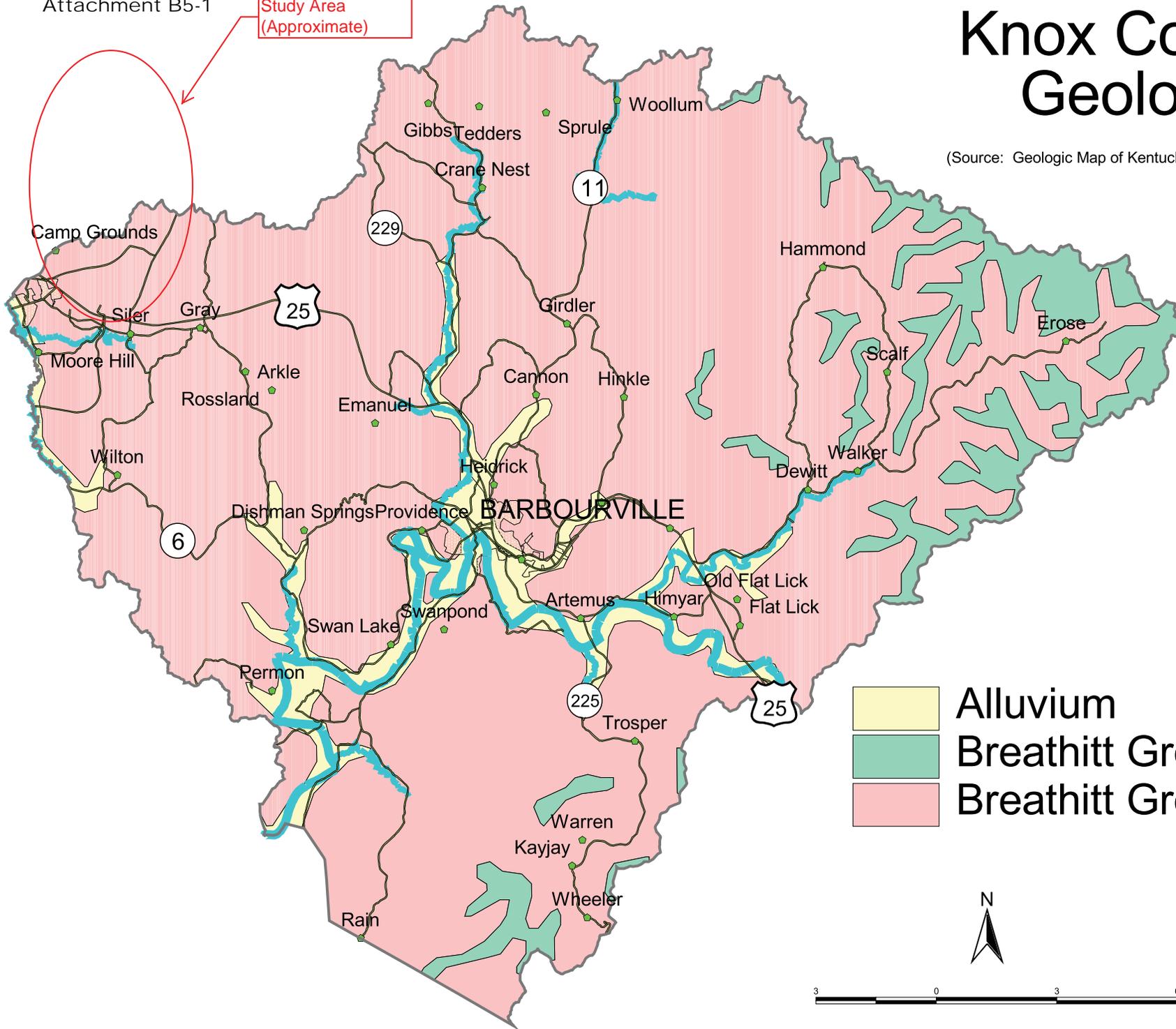
Corbin Bypass (KY 3041) Extension
KYTC Item #11-190.00
Knox and Laurel Counties, Kentucky

Attachment B5-1

Study Area
(Approximate)

Knox County Geology

(Source: Geologic Map of Kentucky, Scale, 1:500,000)

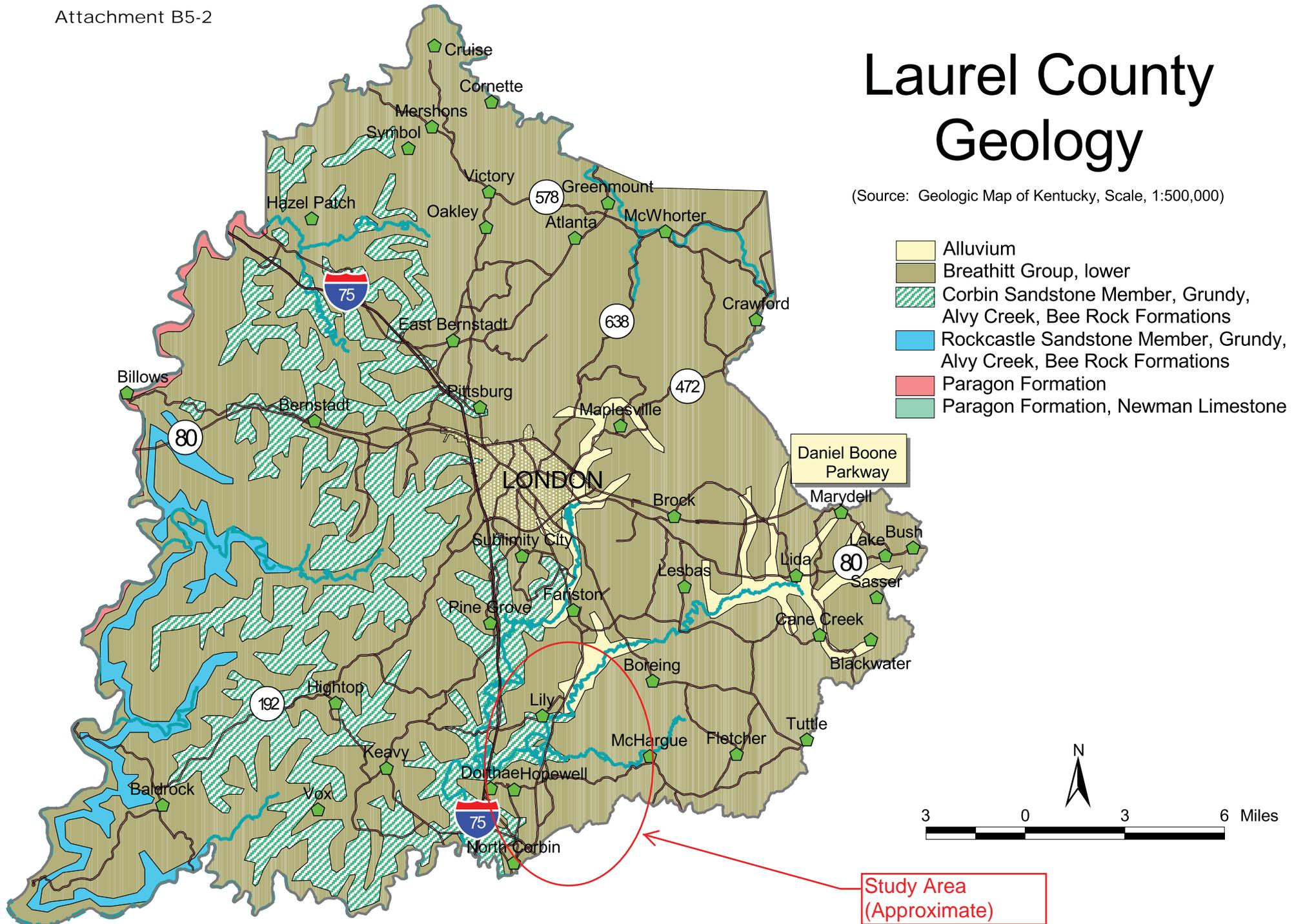


- Alluvium
- Breathitt Group, middle
- Breathitt Group, lower



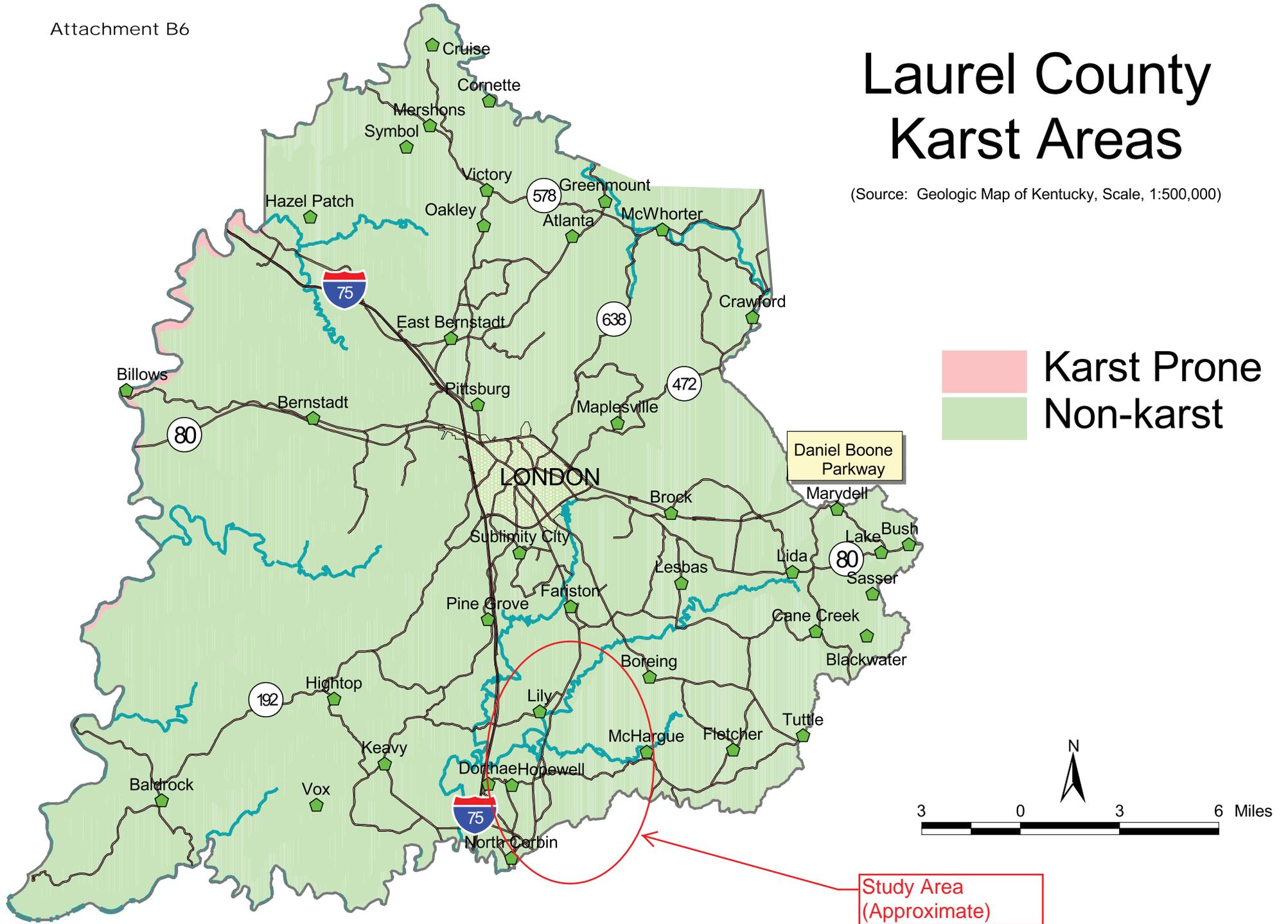
Laurel County Geology

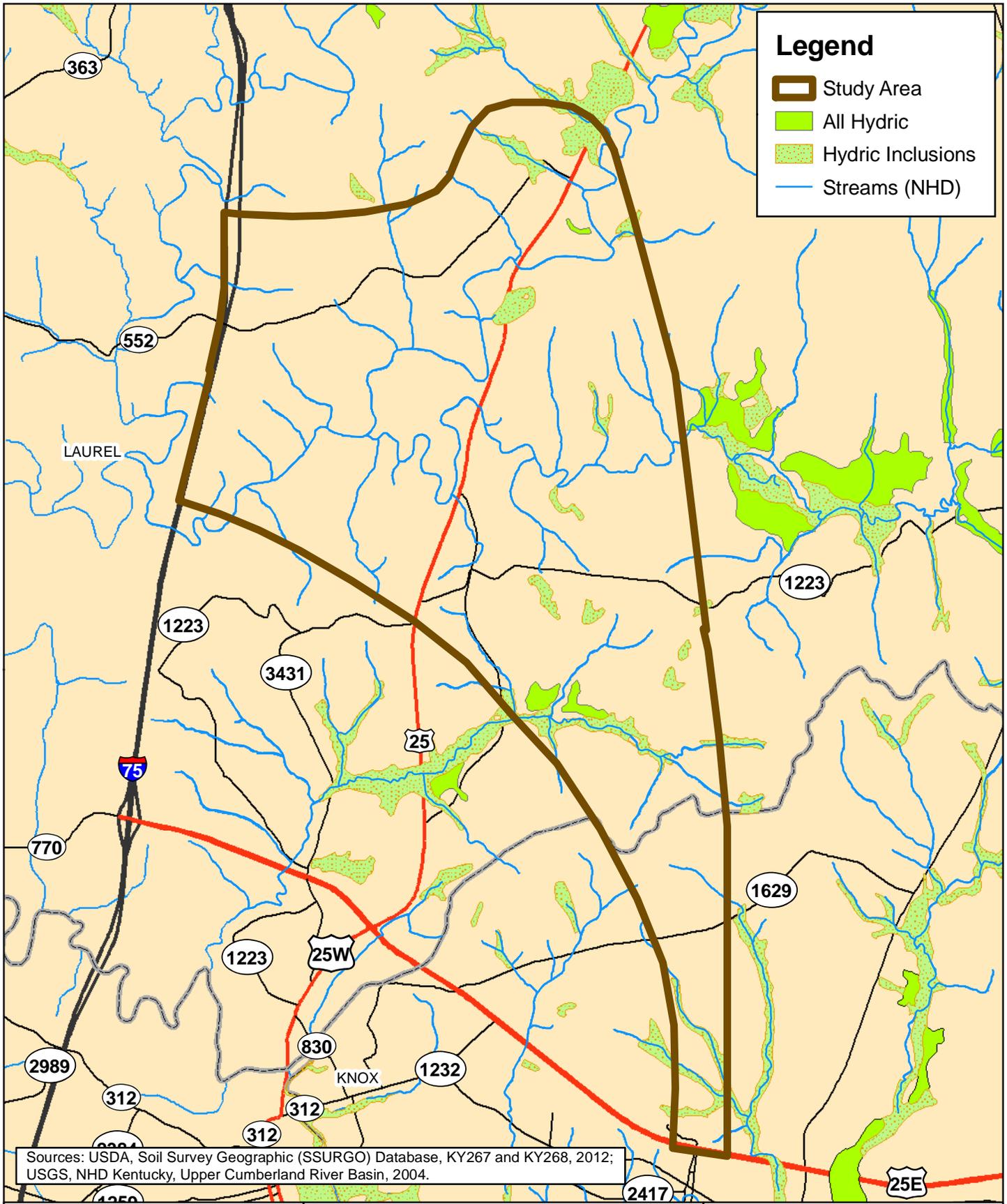
(Source: Geologic Map of Kentucky, Scale, 1:500,000)



Laurel County Karst Areas

(Source: Geologic Map of Kentucky, Scale, 1:500,000)



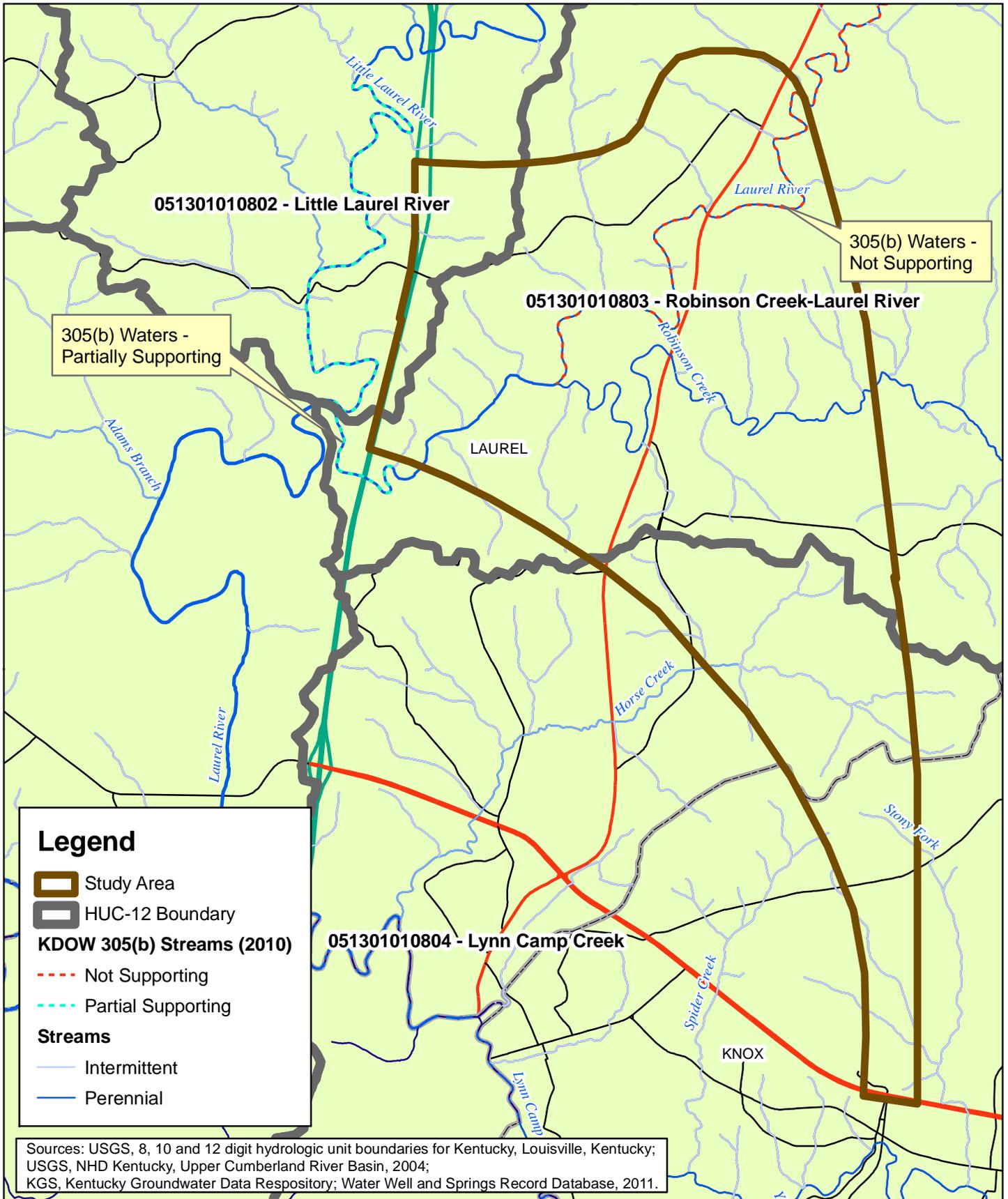


0 0.25 0.5 1
Miles
April 2013

N

Corbin Bypass (KY 3041) Extension
 KYTC Item #11-190.00
 Knox and Laurel Counties

Attachment B7
 Hydric Soils



305(b) Waters - Partially Supporting

305(b) Waters - Not Supporting

Legend

- Study Area
- HUC-12 Boundary
- KDOW 305(b) Streams (2010)**
 - Not Supporting
 - Partial Supporting
- Streams**
 - Intermittent
 - Perennial

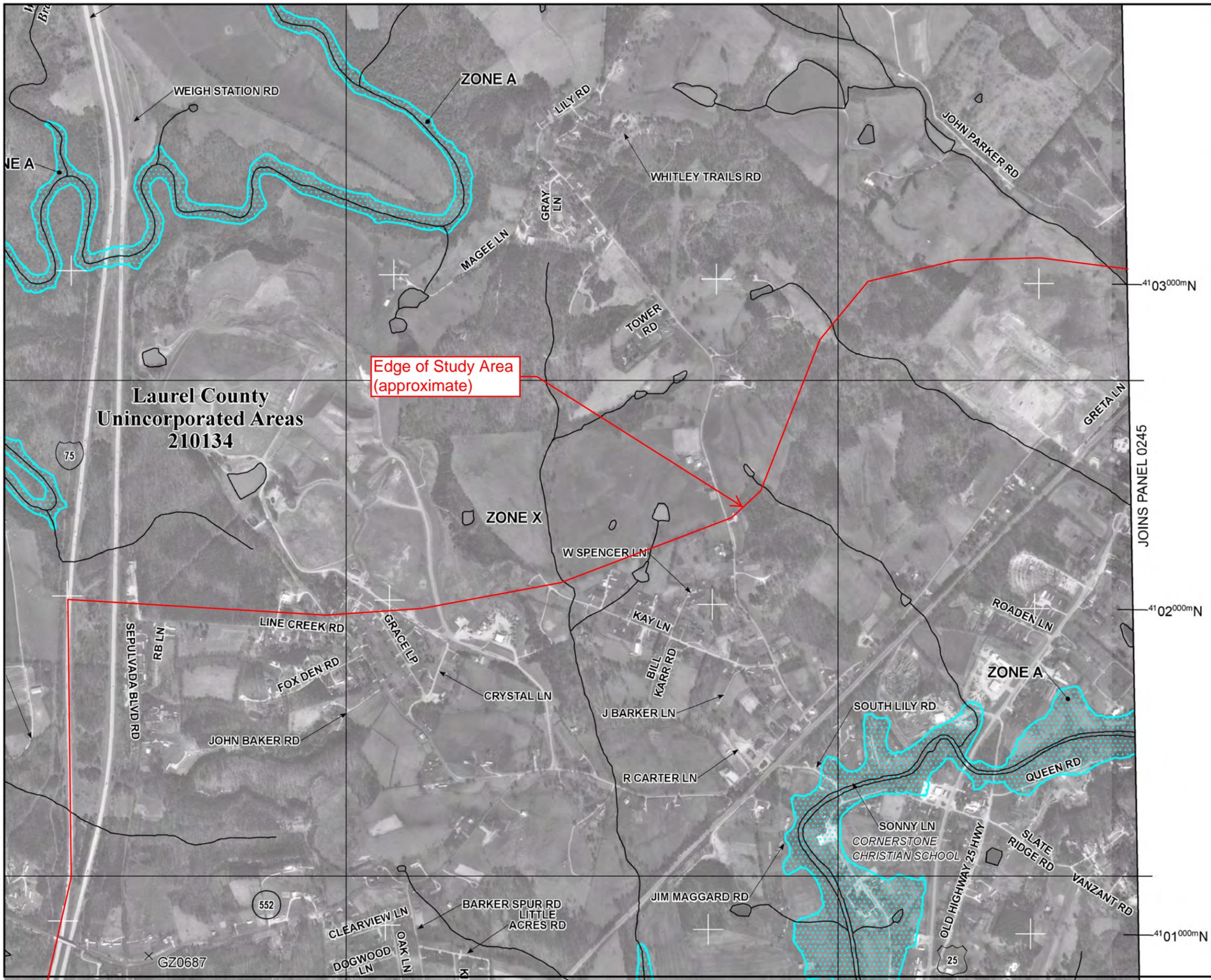
Sources: USGS, 8, 10 and 12 digit hydrologic unit boundaries for Kentucky, Louisville, Kentucky; USGS, NHD Kentucky, Upper Cumberland River Basin, 2004; KGS, Kentucky Groundwater Data Respository; Water Well and Springs Record Database, 2011.

0 0.25 0.5 1
Miles
April 2013



Corbin Bypass (KY 3041) Extension
KYTC Item #11-190.00
Knox and Laurel Counties

Attachment B8
Watersheds and Mapped Streams



Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

NFIP PANEL 0240C

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
LAUREL COUNTY
KENTUCKY
AND INCORPORATED AREAS

PANEL 240 OF 400
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAUREL COUNTY	210134	0240	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
21125C0240C

EFFECTIVE DATE
AUGUST 2, 2006

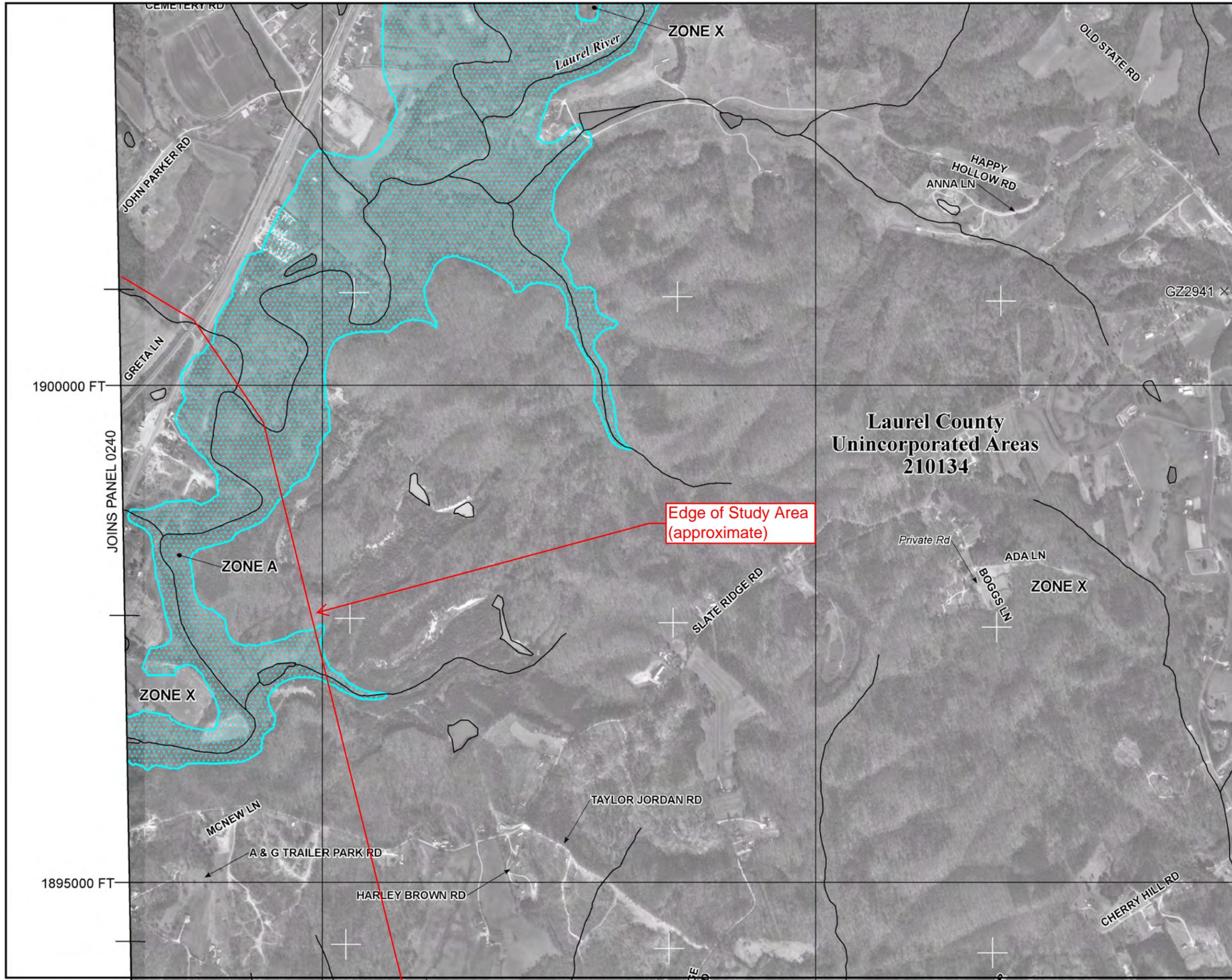
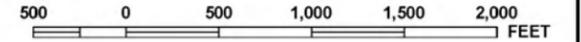
Federal Emergency Management Agency

Attachment B9-1

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 1000'



NFIP PANEL 0245C

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
LAUREL COUNTY
KENTUCKY
AND INCORPORATED AREAS

PANEL 245 OF 400
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAUREL COUNTY	210134	0245	C

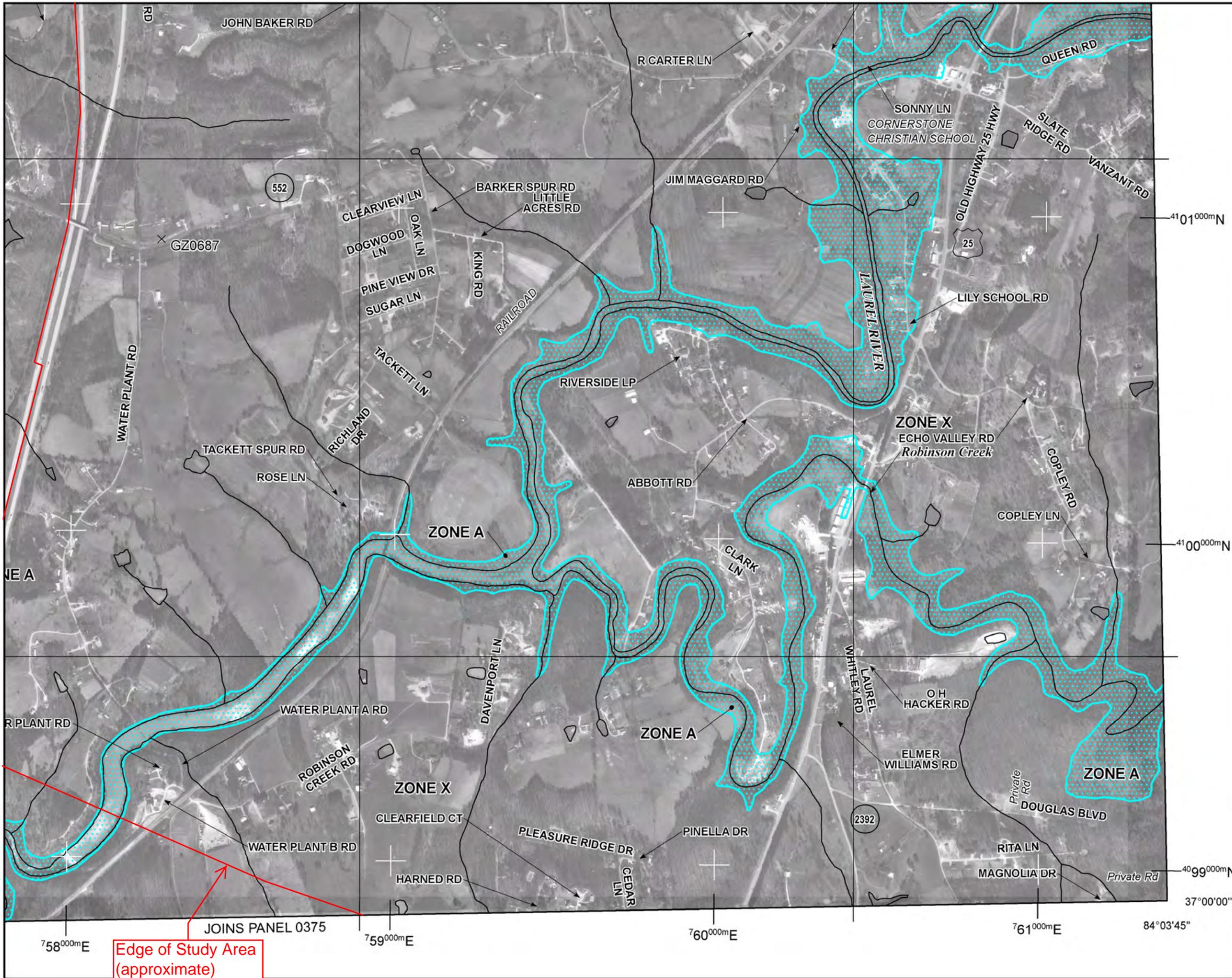
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

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EFFECTIVE DATE
AUGUST 2, 2006

 Federal Emergency Management Agency

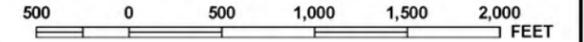
Attachment B9-2



Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 1000'



PANEL 0240C

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
LAUREL COUNTY
KENTUCKY
AND INCORPORATED AREAS

PANEL 240 OF 400
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAUREL COUNTY	210134	0240	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
21125C0240C

EFFECTIVE DATE
AUGUST 2, 2006

Federal Emergency Management Agency

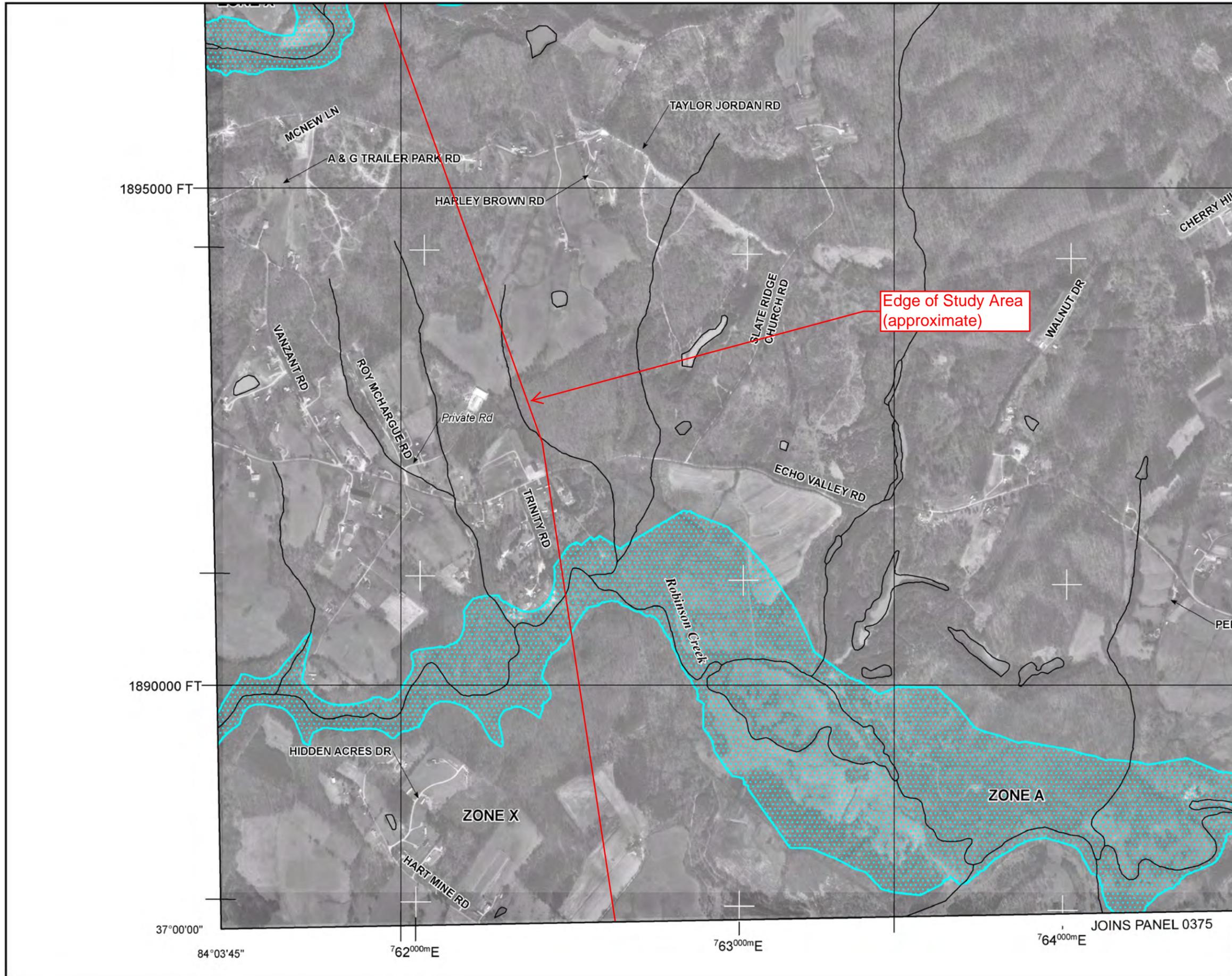
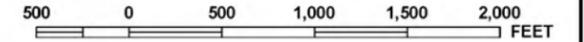
Attachment B9-3

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Edge of Study Area (approximate)



MAP SCALE 1" = 1000'



NFIP PANEL 0245C

FIRM
FLOOD INSURANCE RATE MAP
LAUREL COUNTY
KENTUCKY
AND INCORPORATED AREAS

PANEL 245 OF 400
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAUREL COUNTY	210134	0245	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
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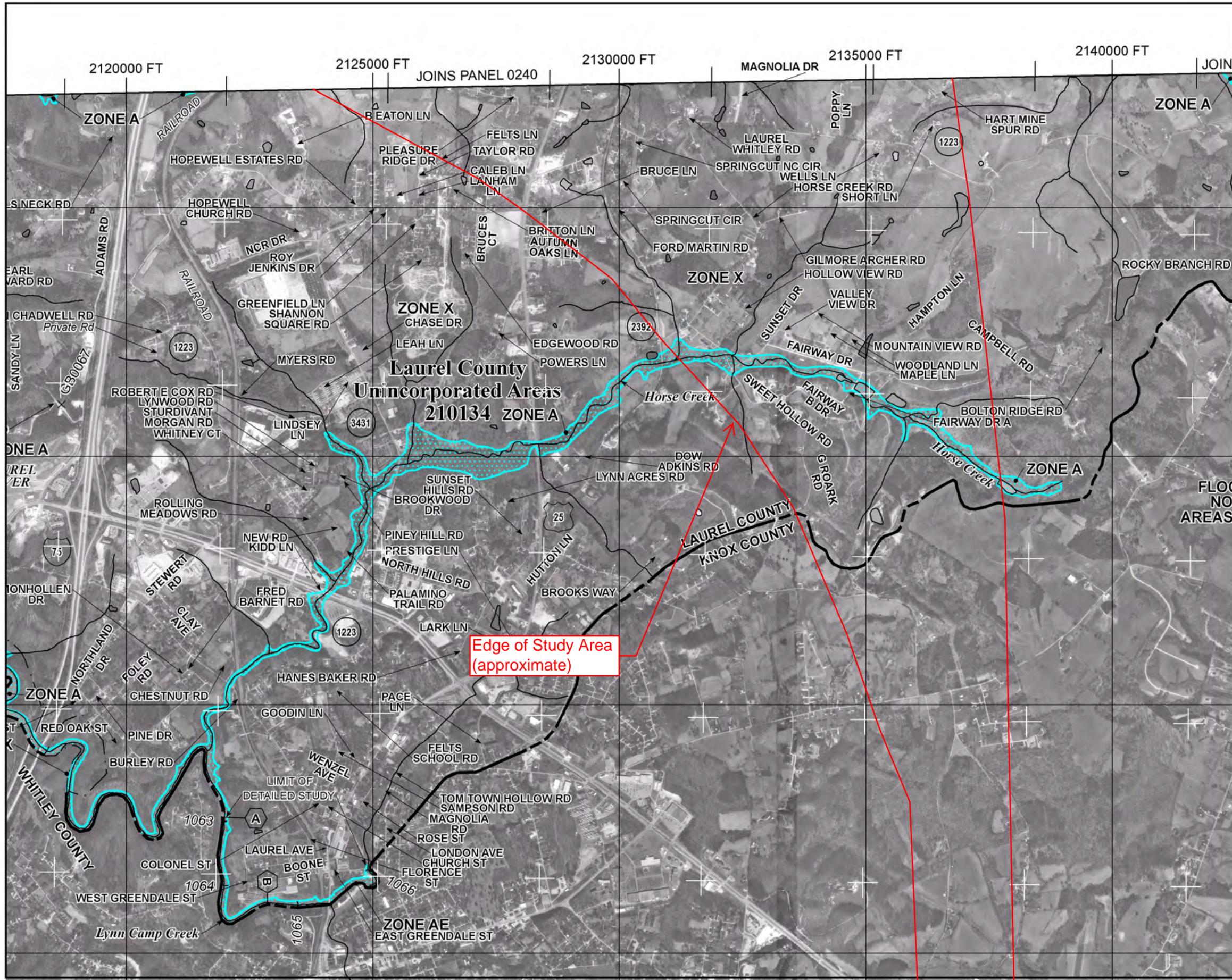
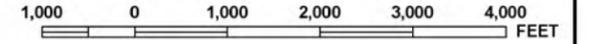
EFFECTIVE DATE
AUGUST 2, 2006

Federal Emergency Management Agency

Attachment B9-4



MAP SCALE 1" = 2000'



NFIP PANEL 0375C

FIRM
FLOOD INSURANCE RATE MAP
LAUREL COUNTY
KENTUCKY
AND INCORPORATED AREAS

PANEL 375 OF 400
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAUREL COUNTY	210134	0375	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

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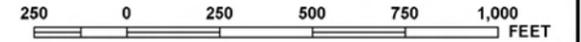
EFFECTIVE DATE
AUGUST 2, 2006

Federal Emergency Management Agency

Attachment B9-5



MAP SCALE 1" = 500'



NFIP

PANEL 0108E

FIRM

**FLOOD INSURANCE RATE MAP
KNOX COUNTY,
KENTUCKY
AND INCORPORATED AREAS**

PANEL 108 OF 375

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KNOX COUNTY	210131	0108	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER
21121C0108E**



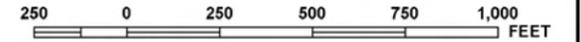
**EFFECTIVE DATE
AUGUST 16, 2006**

Federal Emergency Management Agency

Attachment B9-6



MAP SCALE 1" = 500'



NFIP

PANEL 0108E

FIRM

**FLOOD INSURANCE RATE MAP
KNOX COUNTY,
KENTUCKY
AND INCORPORATED AREAS**

PANEL 108 OF 375

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KNOX COUNTY	210131	0108	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

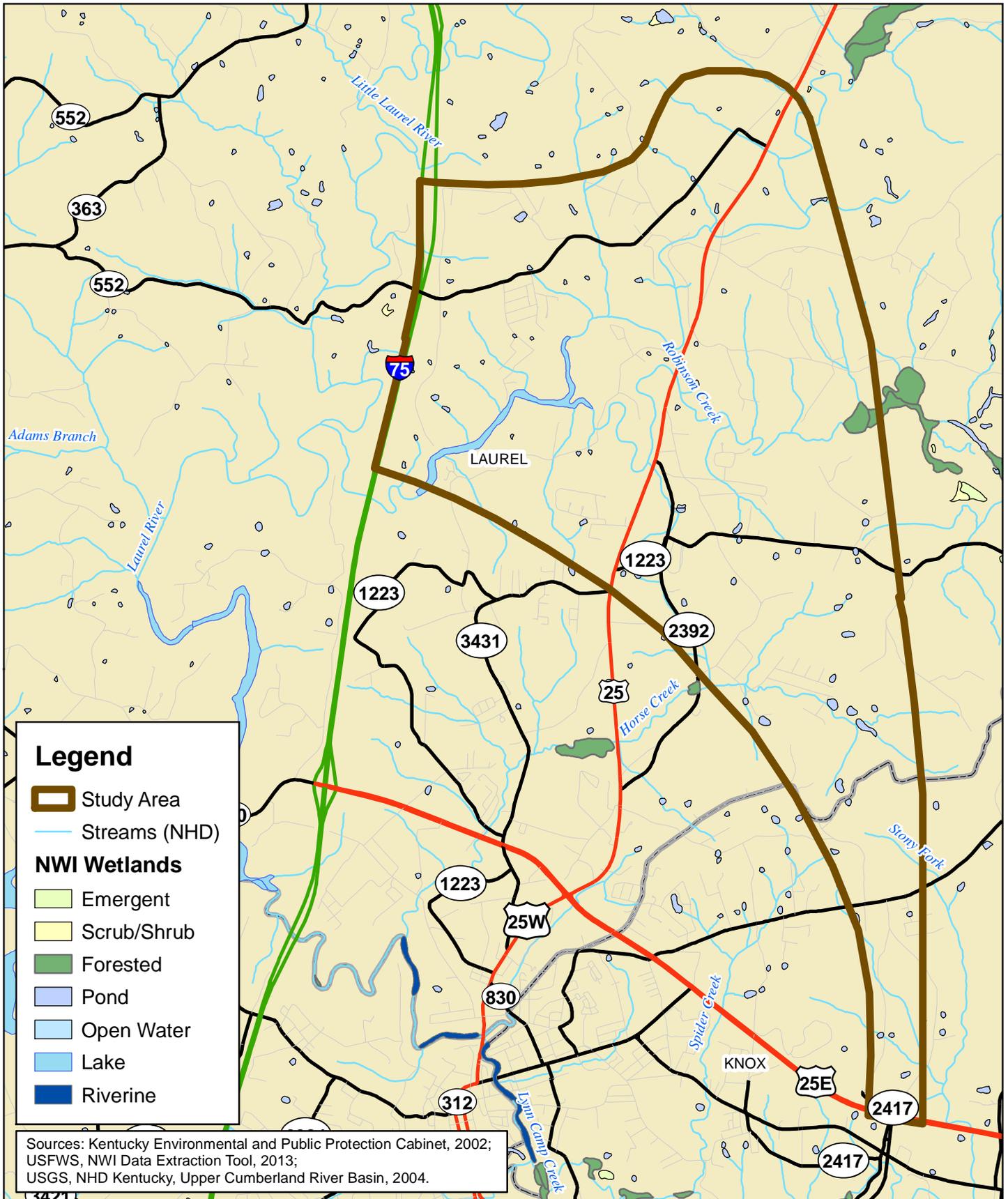


**MAP NUMBER
21121C0108E**

**EFFECTIVE DATE
AUGUST 16, 2006**

Federal Emergency Management Agency

Attachment B9-7



April 2013



Corbin Bypass (KY 3041) Extension

KYTC Item #11-190.00
 Knox and Laurel Counties

Attachment B10

**NWI-Mapped
 Wetlands**

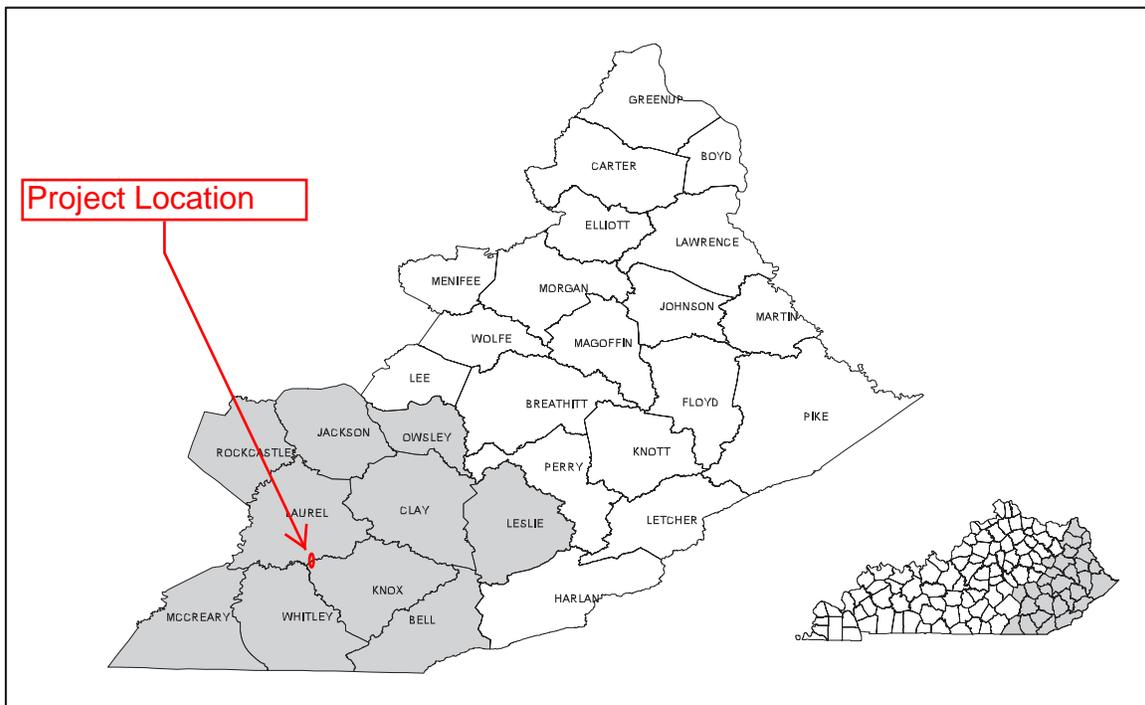
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH
THE COMMONWEALTH OF KENTUCKY
AND THE KENTUCKY GEOLOGICAL SURVEY
UNIVERSITY OF KENTUCKY

AVAILABILITY OF GROUND WATER IN BELL, CLAY, JACKSON,
KNOX, LAUREL, LESLIE, McCREARY, OWSLEY, ROCKCASTLE,
AND WHITLEY COUNTIES, KENTUCKY

By
Chabot Kilburn, W.E. Price, Jr., and D.S. Mull

HYDROLOGIC INVESTIGATIONS
ATLAS HA-38



INDEX MAP OF THE EASTERN COAL FIELD REGION, KENTUCKY, SHOWING COUNTY GROUPS AND AREA OF THIS ATLAS

This is 1 of 3 atlases (HA-36, HA-37, HA-38) showing geology and availability of ground water in the Eastern Coal Field region, Kentucky U.S. Geological Survey Water-Supply Paper 1607 contains a text description and illustrations providing further information on the occurrence and quality of ground water in the Eastern Coal Field region.

PUBLISHED BY THE U.S. GEOLOGICAL SURVEY

WASHINGTON, D.C.

QUATERNARY SYSTEM	SERIES	GROUP	FORMATION	SYMBOL	SECTION	THICKNESS (IN FEET)	MINOR DIVISIONS	CHARACTER OF MINOR DIVISIONS	GENERAL CHARACTER OF FORMATIONS	TOPOGRAPHY	HYDROLOGY											
QUATERNARY	Recent and Recent		Alluvium	A		0-2500±	Magoffin beds	Magoffin beds Limestone, fossiliferous, thin.	Alluvium Silt, clay, and minor amounts of sand and gravel.	Alluvium Forms narrow flood plains and underlies terraces. At least one well-developed terrace is present along the principal streams of the region.	Alluvium Yields more than 100 gpd to most dug wells. Where sandy material is present and saturated thickness great enough, would yield more than 500 gpd to screened drilled wells.											
							Breathitt formation, post-Lee Pennsylvanian rocks	Breathitt formation or undifferentiated post-Lee Pennsylvanian rocks	Breathitt formation or undifferentiated post-Lee Pennsylvanian rocks	Breathitt formation or undifferentiated post-Lee Pennsylvanian rocks	Along the western margin of the area, in the Cumberland Plateau section, yields more than 500 gpd to almost half the wells drilled in valley bottoms. Yields more than 100 gpd to more than half the wells on hillsides and about half the wells on hillslopes. In southwestern Leslie and eastern Bell Counties yields more than 500 gpd to more than three-quarters of the wells drilled in valleys. Yields more than 500 gpd to about three-quarters of the wells on hillsides and more than 100 gpd to nearly all wells on hillslopes. In the remainder of the area yields more than 500 gpd to almost half the wells on hillsides and smaller quantities of water to wells on hillslopes. Yields water from sandstone, shale, and coal. Joints and openings along bedding planes supply most of the water to wells. Waters are highly variable in chemical character. May contain salty water at depths less than 100 feet below the principal valley bottoms in most of Clay and Owsley Counties, and in northwestern Leslie County.											
PENNSYLVANIAN			Breathitt formation, post-Lee Pennsylvanian rocks	Pbt		0-2500±	Fire clay coal	Fire clay coal Coal with distinctive flint-clay parting.	Siltstone, sandstone, and claystone, with lesser amounts of coal and clay. Very few limestones are present. Siltstones are gray, micaceous, and contain plant fragments. Some of the sandstones and claystones also contain fossil plants. Sandstones are gray and are characterized by an abundance of minerals of the clay-mica type and rock fragments. In the upper part of the formation the sandstones are feldspathic. Claystones are dark and light gray and contain ironstone at many places. Clays commonly underlie coal beds.	Breathitt formation or undifferentiated post-Lee Pennsylvanian rocks	Breathitt formation or undifferentiated post-Lee Pennsylvanian rocks	Breathitt formation or undifferentiated post-Lee Pennsylvanian rocks										
							Corbin sandstone member	Corbin sandstone member Conglomeratic sandstone, pink, coarse-grained, friable; contains layers of thin-bedded hard sand. Weathers to rounded masses. Ranges in thickness from 0 to 200 feet.	Lee formation	Lee formation Two or three conglomeratic sandstones separated by claystones, siltstones, and a few thin coals. The sandstones are quartzite, massive, and crossbedded. Pebbles, in the conglomeratic phases of the sandstones, are quartz and may be distributed equally through the rock or concentrated in bands.	Lee formation	Lee formation Thick, resistant sandstones form the high ridges of Pine, Cumberland, and Rocky Face Mountains in Bell County, and underlie an extensive upland (Cumberland Plateau section) in McCreary, eastern Whitley, Laurel, southeastern Jackson, and northwestern Owsley Counties. Shaly facies of the Lee formation, cropping out in northwestern Laurel and Jackson Counties, forms a highly dissected area of winding ridges and steep-sided hills.	Lee formation	Lee formation In northwestern Laurel, most of Jackson, and the western tip of Owsley County yields more than 100 gpd to about three-quarters of the wells drilled on hillslopes. Yields larger quantities of water to wells on hillsides and valley bottoms. Elsewhere in the Cumberland Plateau section yields more than 500 gpd to more than three-quarters of the wells drilled in valley bottoms. Yields more than 500 gpd to almost three-quarters of the wells on hillsides and about half the wells on hillslopes. In the Kanawha section yields more than 500 gpd to most wells drilled in valley bottoms. Yields more than 500 gpd to almost half the wells on hillsides, and more than 500 gpd to almost three-quarters of the wells on hillslopes. In the Cumberland Mountain section yields more than 500 gpd to about three-quarters of the wells drilled in valley bottoms. Yields more than 500 gpd to about half the wells on hillsides. Yields smaller quantities of water to wells on hillslopes. Sandstone is the principal aquifer, but shale yields water to some wells and coal to a few. Joints and openings along bedding planes, best developed in sandstone, supply most of the water to wells. Perched and semi-perched water tables are common in the western part of the area. Waters are generally soft or moderately hard and contain noticeable amounts of iron. Salty waters are known to be present at shallow depth in most of Clay, Owsley, and northwestern Leslie Counties.								
							Rockcastle sandstone member	Rockcastle sandstone member Conglomeratic sandstone, coarse-grained, massive, cliff-forming. Ranges from 0 to 200 feet in thickness.	Livingston conglomerate	Livingston conglomerate Sandstone, and conglomerate with well-rounded pebbles, poorly cemented, forms channel deposit.	Pennington shale	Pennington shale Shale, reddish and greenish, contains minor amounts of limestone and sandstone.	Glen Dean limestone	Glen Dean limestone Limestone, dark- to blue-gray, fine- to medium-grained, with shaly beds near top.	Warsaw limestone—limestones of early Chester age	Warsaw limestone—limestones of early Chester age From top to bottom, consists of the following units: Limestone, whitish- to dark-gray, fine- to medium-grained, oolitic in places; contains green- to dark-gray shale, and shaly limestone in upper portion. Limestone, light-gray to whitish, fine-grained, oolitic, crossbedded; contains small amount of chert. Limestone, dark-gray to black, fine-grained, cherty; replaced in some areas by medium- to dark-gray geodiferous siltstone. Limestone, gray, contains beds of dark-gray to black shale, and light-brown, medium-grained sandstone; replaced in some areas by medium- to dark-gray siltstone.	Warsaw limestone—Glen Dean limestone	Warsaw limestone—Glen Dean limestone Forms steep slopes and cliffs along the northwest face of Pine Mountain in Bell County. Forms precipitous walls along streams in northwestern Jackson County and in the gorge of the Cumberland River in McCreary County. Forms cliffs on hillsides and underlies upland areas marked by solution features such as caves, sink, and underground streams in western Rockcastle County.	Upper Mississippian rocks	Upper Mississippian rocks Yields more than 500 gpd to almost all the wells drilled in valley bottoms and to most wells drilled on hills. Yields little water where overlain by Pennsylvanian rocks. May yield as much as 400 gpm to wells at Pineville. Water is chiefly from solution cavities in limestone, but sandstone and shale yield water from fractures to a few wells. May contain salty water at shallow depth in a few places. Springs yield more than 20 gpm from solution cavities in limestones.		
							Borden group	Borden group Siltstone, containing beds of sandstone, claystone, and beds or lenses of limestone. Siltstones are dark, greenish, or yellowish gray to buff, and contain worm marks and <i>Trematoceras</i> . Sandstones are fine to very fine grained and micaceous. Variegated shaly claystones are prominent in the uppermost part of the formation. Carbonate concretions are common throughout the section, but bedded limestones are prevalent only in the upper part.	Price and Maccrady formations	Price and Maccrady formations Shale, grayish green and red, interbedded with very fine-grained sandstone; grades downwards into reddish and greenish shale with limonite stringers.	Chattanooga shale	Chattanooga shale Shale, black, fissile.	Duffin and Boyle limestones	Duffin and Boyle limestones Limestone, brown, sandy, porous; contains small quartz pebbles.	Borden group	Borden group Yields more than 500 gpd to almost half the wells drilled in valley bottoms, and smaller quantities of water to wells on hills. Shale is the most common aquifer. Sandstones yield water to some wells and limestone to a very few. Fractures chiefly supply water to wells. Commonly contains salty water at depths less than 100 feet below the level of the principal valley bottoms.	Price and Maccrady formations	Price and Maccrady formations May yield more than 500 gpd to wells drilled into the formation near the foot of Pine Mountain. Will yield much less than this amount throughout most of its outcrop area.	Chattanooga shale	Chattanooga shale In Rockcastle County yields more than 100 gpd (gallons per day) to most wells drilled in valley bottoms. Yields smaller quantities of water to wells on hillsides. Water is from fractures, and may be salty, sulfurous, or high in iron. On Pine Mountain yields little or no water to wells.	Duffin and Boyle limestones	Duffin and Boyle limestones Yields small quantities of water to wells.
							Chattanooga shale	Chattanooga shale Shale, black, fissile.	Duffin and Boyle limestones	Duffin and Boyle limestones Limestone, brown, sandy, porous; contains small quartz pebbles.	Chattanooga shale	Chattanooga shale Forms wide valleys in which Copper Creek and Dix River in northwestern Rockcastle County flow, and moderate slopes at the base of Pine Mountain in Bell County.	Duffin and Boyle limestones	Duffin and Boyle limestones Forms the valley bottoms of the lower part of Copper Creek and Dix River in northwestern Rockcastle County.	Chattanooga shale	Chattanooga shale Forms steep slopes and cliffs along the northwest face of Pine Mountain in Bell County. Forms precipitous walls along streams in northwestern Jackson County and in the gorge of the Cumberland River in McCreary County. Forms cliffs on hillsides and underlies upland areas marked by solution features such as caves, sink, and underground streams in western Rockcastle County.	Upper Mississippian rocks	Upper Mississippian rocks Yields more than 500 gpd to almost all the wells drilled in valley bottoms and to most wells drilled on hills. Yields little water where overlain by Pennsylvanian rocks. May yield as much as 400 gpm to wells at Pineville. Water is chiefly from solution cavities in limestone, but sandstone and shale yield water from fractures to a few wells. May contain salty water at shallow depth in a few places. Springs yield more than 20 gpm from solution cavities in limestones.	Chattanooga shale	Chattanooga shale In Rockcastle County yields more than 100 gpd (gallons per day) to most wells drilled in valley bottoms. Yields smaller quantities of water to wells on hillsides. Water is from fractures, and may be salty, sulfurous, or high in iron. On Pine Mountain yields little or no water to wells.	Duffin and Boyle limestones	Duffin and Boyle limestones Yields small quantities of water to wells.
							Price and Maccrady formations	Price and Maccrady formations Shale, grayish green and red, interbedded with very fine-grained sandstone; grades downwards into reddish and greenish shale with limonite stringers.	Chattanooga shale	Chattanooga shale Shale, black, fissile.	Duffin and Boyle limestones	Duffin and Boyle limestones Limestone, brown, sandy, porous; contains small quartz pebbles.	Chattanooga shale	Chattanooga shale Forms wide valleys in which Copper Creek and Dix River in northwestern Rockcastle County flow, and moderate slopes at the base of Pine Mountain in Bell County.	Duffin and Boyle limestones	Duffin and Boyle limestones Forms the valley bottoms of the lower part of Copper Creek and Dix River in northwestern Rockcastle County.	Upper Mississippian rocks	Upper Mississippian rocks Yields more than 500 gpd to almost all the wells drilled in valley bottoms and to most wells drilled on hills. Yields little water where overlain by Pennsylvanian rocks. May yield as much as 400 gpm to wells at Pineville. Water is chiefly from solution cavities in limestone, but sandstone and shale yield water from fractures to a few wells. May contain salty water at shallow depth in a few places. Springs yield more than 20 gpm from solution cavities in limestones.	Chattanooga shale	Chattanooga shale In Rockcastle County yields more than 100 gpd (gallons per day) to most wells drilled in valley bottoms. Yields smaller quantities of water to wells on hillsides. Water is from fractures, and may be salty, sulfurous, or high in iron. On Pine Mountain yields little or no water to wells.	Duffin and Boyle limestones	Duffin and Boyle limestones Yields small quantities of water to wells.
							Price and Maccrady formations	Price and Maccrady formations Shale, grayish green and red, interbedded with very fine-grained sandstone; grades downwards into reddish and greenish shale with limonite stringers.	Chattanooga shale	Chattanooga shale Shale, black, fissile.	Duffin and Boyle limestones	Duffin and Boyle limestones Limestone, brown, sandy, porous; contains small quartz pebbles.	Chattanooga shale	Chattanooga shale Forms wide valleys in which Copper Creek and Dix River in northwestern Rockcastle County flow, and moderate slopes at the base of Pine Mountain in Bell County.	Duffin and Boyle limestones	Duffin and Boyle limestones Forms the valley bottoms of the lower part of Copper Creek and Dix River in northwestern Rockcastle County.	Upper Mississippian rocks	Upper Mississippian rocks Yields more than 500 gpd to almost all the wells drilled in valley bottoms and to most wells drilled on hills. Yields little water where overlain by Pennsylvanian rocks. May yield as much as 400 gpm to wells at Pineville. Water is chiefly from solution cavities in limestone, but sandstone and shale yield water from fractures to a few wells. May contain salty water at shallow depth in a few places. Springs yield more than 20 gpm from solution cavities in limestones.	Chattanooga shale	Chattanooga shale In Rockcastle County yields more than 100 gpd (gallons per day) to most wells drilled in valley bottoms. Yields smaller quantities of water to wells on hillsides. Water is from fractures, and may be salty, sulfurous, or high in iron. On Pine Mountain yields little or no water to wells.	Duffin and Boyle limestones	Duffin and Boyle limestones Yields small quantities of water to wells.
							Price and Maccrady formations	Price and Maccrady formations Shale, grayish green and red, interbedded with very fine-grained sandstone; grades downwards into reddish and greenish shale with limonite stringers.	Chattanooga shale	Chattanooga shale Shale, black, fissile.	Duffin and Boyle limestones	Duffin and Boyle limestones Limestone, brown, sandy, porous; contains small quartz pebbles.	Chattanooga shale	Chattanooga shale Forms wide valleys in which Copper Creek and Dix River in northwestern Rockcastle County flow, and moderate slopes at the base of Pine Mountain in Bell County.	Duffin and Boyle limestones	Duffin and Boyle limestones Forms the valley bottoms of the lower part of Copper Creek and Dix River in northwestern Rockcastle County.	Upper Mississippian rocks	Upper Mississippian rocks Yields more than 500 gpd to almost all the wells drilled in valley bottoms and to most wells drilled on hills. Yields little water where overlain by Pennsylvanian rocks. May yield as much as 400 gpm to wells at Pineville. Water is chiefly from solution cavities in limestone, but sandstone and shale yield water from fractures to a few wells. May contain salty water at shallow depth in a few places. Springs yield more than 20 gpm from solution cavities in limestones.	Chattanooga shale	Chattanooga shale In Rockcastle County yields more than 100 gpd (gallons per day) to most wells drilled in valley bottoms. Yields smaller quantities of water to wells on hillsides. Water is from fractures, and may be salty, sulfurous, or high in iron. On Pine Mountain yields little or no water to wells.	Duffin and Boyle limestones	Duffin and Boyle limestones Yields small quantities of water to wells.
							Price and Maccrady formations	Price and Maccrady formations Shale, grayish green and red, interbedded with very fine-grained sandstone; grades downwards into reddish and greenish shale with limonite stringers.	Chattanooga shale	Chattanooga shale Shale, black, fissile.	Duffin and Boyle limestones	Duffin and Boyle limestones Limestone, brown, sandy, porous; contains small quartz pebbles.	Chattanooga shale	Chattanooga shale Forms wide valleys in which Copper Creek and Dix River in northwestern Rockcastle County flow, and moderate slopes at the base of Pine Mountain in Bell County.	Duffin and Boyle limestones	Duffin and Boyle limestones Forms the valley bottoms of the lower part of Copper Creek and Dix River in northwestern Rockcastle County.	Upper Mississippian rocks	Upper Mississippian rocks Yields more than 500 gpd to almost all the wells drilled in valley bottoms and to most wells drilled on hills. Yields little water where overlain by Pennsylvanian rocks. May yield as much as 400 gpm to wells at Pineville. Water is chiefly from solution cavities in limestone, but sandstone and shale yield water from fractures to a few wells. May contain salty water at shallow depth in a few places. Springs yield more than 20 gpm from solution cavities in limestones.	Chattanooga shale	Chattanooga shale In Rockcastle County yields more than 100 gpd (gallons per day) to most wells drilled in valley bottoms. Yields smaller quantities of water to wells on hillsides. Water is from fractures, and may be salty, sulfurous, or high in iron. On Pine Mountain yields little or no water to wells.	Duffin and Boyle limestones	Duffin and Boyle limestones Yields small quantities of water to wells.

Of Murra (1922)
Revised as used by Stockdale (1936)
Of Miller (1908)
As used by Stockdale (1936)
Of Stockdale (1936)
Of Ferriss (1905, 1950) as used by Savage (1930)

GENERALIZED COLUMNAR SECTION IN BELL, CLAY, JACKSON, KNOX, LAUREL, LESLIE, MC CREARY,
OWSLEY, ROCKCASTLE, AND WHITLEY COUNTIES, KENTUCKY

By
Chabot Kilburn, W. E. Price, Jr., and D. S. Mull

Groundwater Sensitivity Regions of Kentucky

by

Kentucky Department for Environmental Protection

Division of Water

Groundwater Branch

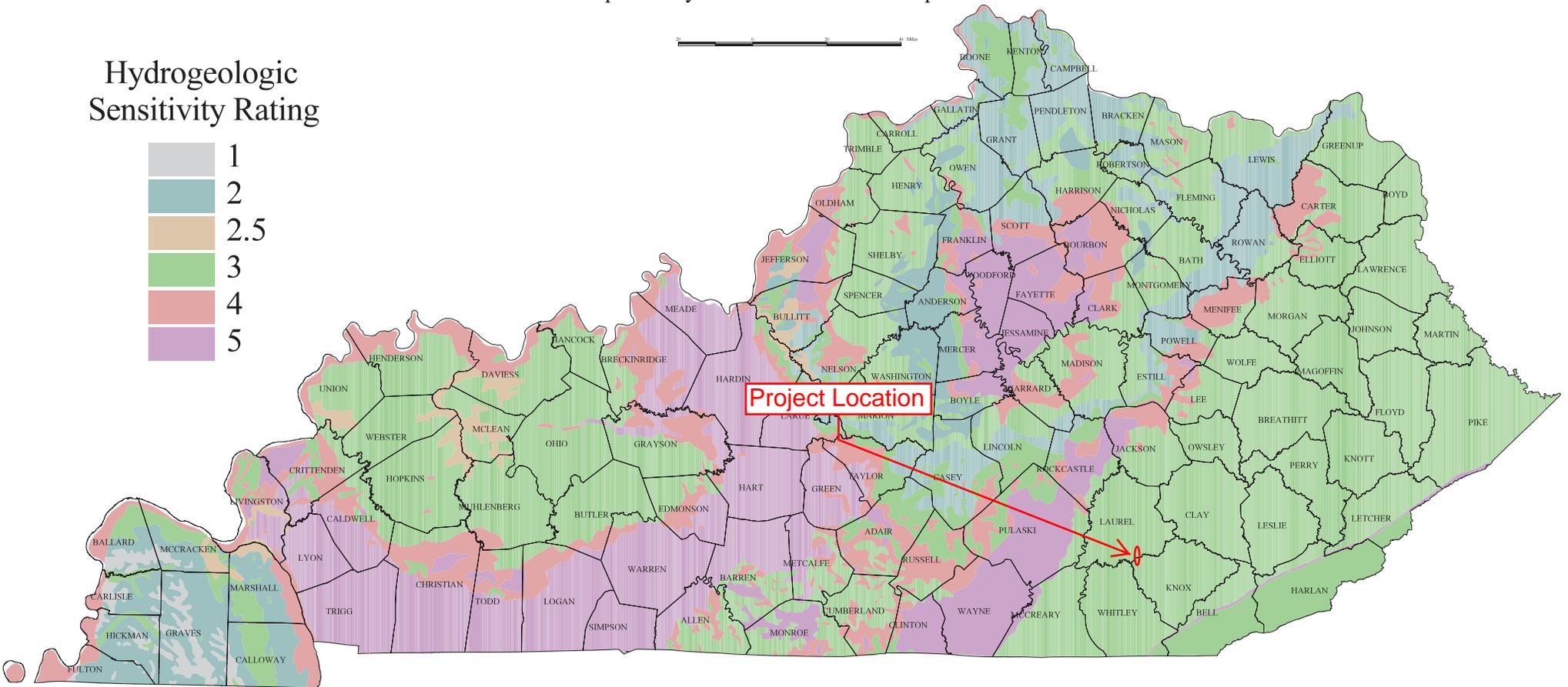
1994

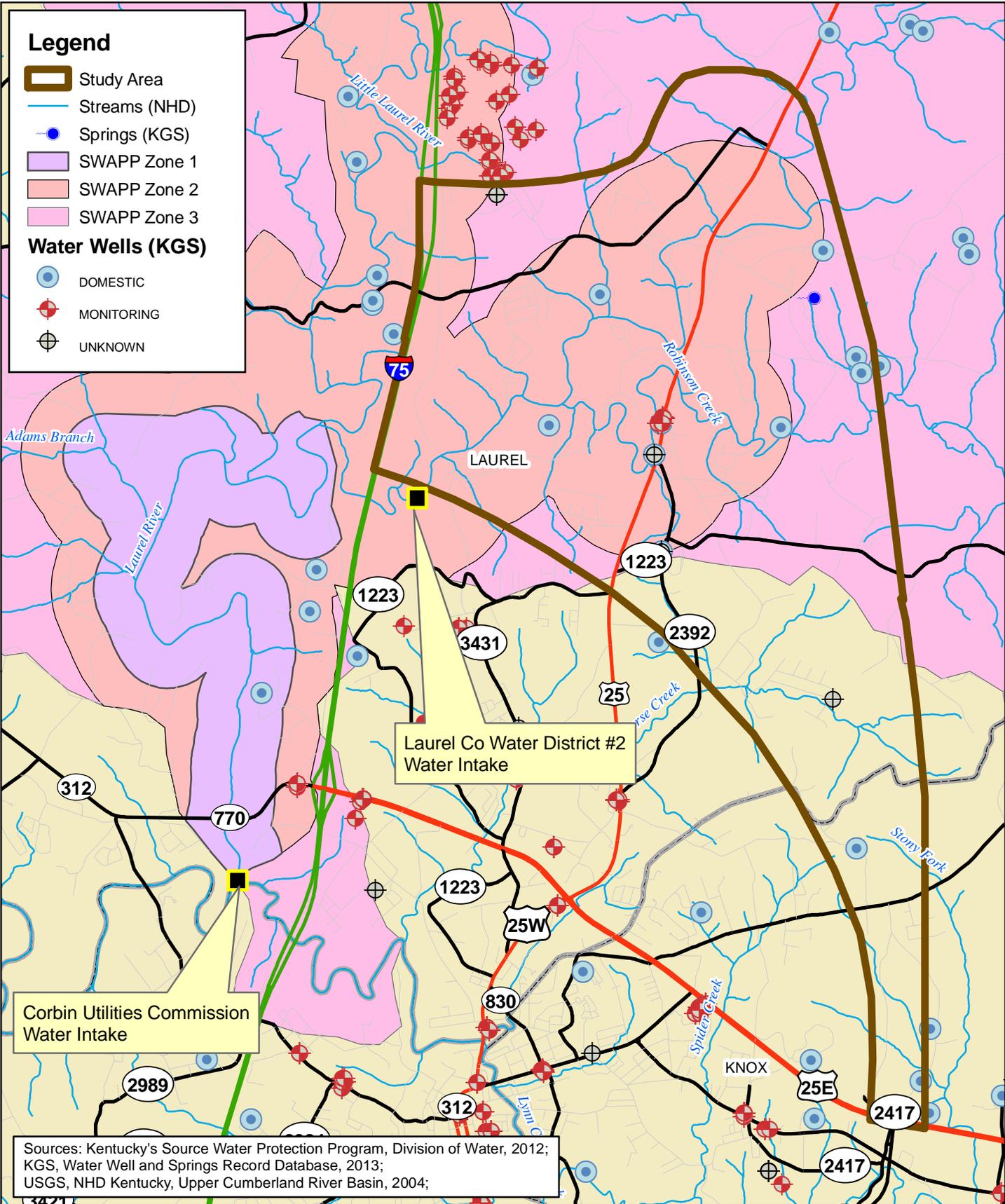
Interpreted by

Joseph A. Ray - James S. Webb - Phillip W. O'dell



Hydrogeologic Sensitivity Rating





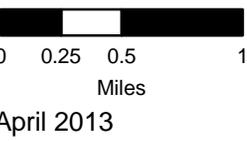
Legend

- Study Area
- Streams (NHD)
- Springs (KGS)
- SWAPP Zone 1
- SWAPP Zone 2
- SWAPP Zone 3

Water Wells (KGS)

- DOMESTIC
- MONITORING
- UNKNOWN

Sources: Kentucky's Source Water Protection Program, Division of Water, 2012;
 KGS, Water Well and Springs Record Database, 2013;
 USGS, NHD Kentucky, Upper Cumberland River Basin, 2004;



Corbin Bypass (KY 3041) Extension
 KYTC Item #11-190.00
 Knox and Laurel Counties

Attachment B13
Groundwater Resources and Public Water Supplies



U.S. Fish & Wildlife Service

Kentucky Ecological Services Field Office

U.S. Fish & Wildlife Service
330 West Broadway, Rm 265
Frankfort, KY 40601
Phone: 502-695-0468
Fax: 502-695-1024

Endangered, Threatened, & Candidate
 Species in _____KNOX_____ County, KY

Group	Species	Common name	Legal* Status	Known** Potential	Special Comments
Mammals	<i>Myotis sodalis</i>	Indiana bat	E	P	
Mussels	<i>Alasmidonta atropurpurea</i>	Cumberland elktoe	E	P	
Fishes	<i>Phoxinus cumberlandensis</i>	blackside dace	T	K	

NOTES:

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

**Key to notations: K = Known occurrence record within the county, P = Potential for the species to occur within the county based upon historic range, proximity to known occurrence records, biological, and physiographic characteristics.

Attachment B14-2

 U.S. Fish & Wildlife Service 330 West Broadway, Rm 265 Frankfort, KY 40601 Phone: 502-695-0468 Fax: 502-695-1024					
Endangered, Threatened, & Candidate Species in _____ LAUREL _____ County, KY			Legal*	Known**	Special Comments
Group	Species	Common name	Status	Potential	
Mammals	<i>Myotis sodalis</i>	Indiana bat	E	P	
	<i>Myotis grisescens</i>	gray bat	E	P	
Mussels	<i>Villosa trabilis</i>	Cumberland bean pearlymussel	E	K	
	<i>Alasmidonta atropurpurea</i>	Cumberland elktoe	E, CH	K	Critical Habitat designation in 2004: Sinking Creek, Laurel County (8 RM: mth upstream to mth Laurel Branch) (68 Federal Register 33234-33282).
	<i>Epioblasma brevidens</i>	Cumberlandian combshell	E	K	
	<i>Ptychobranthus subtentum</i>	fluted kidneyshell	C	K	
	<i>Pegias fabula</i>	littlewing pearlymussel	E	K	
	<i>Epioblasma capsaeiformis</i>	oyster mussel	E	K	
Plants	<i>Spiraea virginiana</i>	Virginia spiraea	T	K	
	<i>Platanthera integrilabia</i>	white fringeless orchid	C	K	
Fishes	<i>Phoxinus cumberlandensis</i>	blackside dace	T	K	
Birds	<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	K	species was delisted July 9, 2007

NOTES:

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

**Key to notations: K = Known occurrence record within the county, P = Potential for the species to occur within the county based upon historic range, proximity to known occurrence records, biological, and physiographic characteristics.



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**Species
Information**

KDFWR Maps

**Public Hunting
Area Maps**

Game Maps

**Download GIS
Data**

Links

Species Information

State Threatened, Endangered, and Special Concern Species observations for selected quads

Linked life history provided courtesy of [NatureServe Explorer](#).

Records may include both recent and historical observations.

[US Status Definitions](#) [Kentucky Status Definitions](#)

List State Threatened, Endangered, and Special Concern Species observations in 2 selected quads.

Selected quads are: Corbin, Lily.

Scientific Name and Life History	Common Name and Pictures	Class	Quad	US Status	KY Status	WAP	Reference
Lytrosis permagnaria	A Geometrid Moth	Insecta	Corbin	N	E		Reference
Alasmidonta atropurpurea	Cumberland Elktoe	Bivalvia	Corbin	LE	E	Yes	Reference
Alasmidonta atropurpurea	Cumberland Elktoe	Bivalvia	Lily	LE	E	Yes	Reference
Anodontoides denigratus	Cumberland Papershell	Bivalvia	Lily	N	E	Yes	Reference
Anodontoides denigratus	Cumberland Papershell	Bivalvia	Corbin	N	E	Yes	Reference
Myotis grisescens	Gray Myotis	Mammalia	Lily	LE	T	Yes	Reference
Polygonia faunus	Green Comma	Insecta	Corbin	N	H		Reference
Mustela nivalis	Least Weasel	Mammalia	Lily	N	S		Reference
Cambarus buntingi	Longclaw Crayfish	Malacostraca	Lily	N	S	Yes	Reference
Speyeria idalia	Regal Fritillary	Insecta	Lily	N	H		Reference

10 species are listed.

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Steven L. Beshear
Governor



Leonard K. Peters
Secretary
Energy and Environment Cabinet

Donald S. Dott, Jr.
Director

Commonwealth of Kentucky
Kentucky State Nature Preserves Commission
801 Schenkel Lane
Frankfort, Kentucky 40601-1403
502-573-2886 Voice
502-573-2355 Fax

April 2, 2013

Bill Leopold
Stantec Consulting Services, Inc.
1848 Summit Road
Cincinnati, OH 45237

Data Request 13-056

Dear Mr. Leopold:

This letter is in response to your data request of March 15, 2013 for the Corbin Bypass Extension from US 25E in Knox County to I-75 in Laurel County (Knox & Laurel Counties) project. We have reviewed our Natural Heritage Program Database to determine if any of the endangered, threatened, or special concern plants and animals or exemplary natural communities monitored by the Kentucky State Nature Preserves Commission occur near the project area on the Corbin and Somerset USGS Quadrangles, as shown on the map provided. Please see the attached reports for more information:

All records within the delineated area – 18 records
5-mile radius for aquatic, bird, and mammal records – 14 records

Cypripedium kentuckiense (Kentucky Lady's-slipper, KSNPC special concern) occurs within the search area and may be impacted by proposed construction work. Kentucky Lady's slipper is a globally rare plant and is listed by the United States Fish and Wildlife Service as a Species of Management Concern. Because of the species' sensitive status, its location is not given. Please contact KSNPC for more information.

Gravel Bar Communities: The reach of the Laurel River extending from about 0.5 mi upstream of Adams Branch to Dorthae Dam is the location of a series of high quality gravel bar communities. Several plant species associated with the gravel bar habitat have a "GRANK" of "G3" or higher (G2, G1). These species should be considered globally significant.

Spiraea virginiana (Virginia spiraea, federally threatened, KSNPC threatened) occurs on gravel bars and banks of generally fourth to sixth order streams of the Cumberland, Tennessee,

March 27, 2013

Page 2

and upper Ohio River drainages. This plant can be adversely impacted by disturbance within the watershed that alters the normal stream flow or water quality. A thorough search of suitable habitat by a qualified botanist is recommended.

Several rare aquatic organisms are located within five miles of the proposed project, including: *Chrosomus cumberlandensis* (Blackside Dace, federally listed threatened, KSNPC threatened), and *Etheostoma sagitta sagitta* (Cumberland Arrow Darter, federal candidate, KSNPC special concern). Aquatic species and habitats in the area are sensitive to increased turbidity, sediment, and other adverse influences on water quality. A written erosion control plan should be developed that includes stringent erosion control methods (i.e., straw bales, silt fences and erosion mats, immediate seeding and mulching of disturbed areas), which are placed in a staggered manner to provide several stages of control. All erosion control measures should be monitored periodically to ensure that they are functioning as planned. Our data are not sufficient to guarantee absence of endangered, threatened or sensitive species from the sites of proposed construction disturbance. We recommend that impacted streams be thoroughly surveyed by a qualified biologist prior to any in-stream disturbance.

I would like to take this opportunity to remind you of the terms of the data request license, which you agreed upon in order to submit your request. The license agreement states "Data and data products received from the Kentucky State Nature Preserves Commission, including any portion thereof, may not be reproduced in any form or by any means without the express written authorization of the Kentucky State Nature Preserves Commission." The exact location of plants, animals, and natural communities, if released by the Kentucky State Nature Preserves Commission, may not be released in any document or correspondence. These products are provided on a temporary basis for the express project (described above) of the requester, and may not be redistributed, resold or copied without the written permission of the Kentucky State Nature Preserves Commission's Data Manager (801 Schenkel Lane, Frankfort, KY, 40601. Phone: (502) 573-2886).

Please note that the quantity and quality of data collected by the Kentucky Natural Heritage Program are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Kentucky have never been thoroughly surveyed, and new plants and animals are still being discovered. For these reasons, the Kentucky Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Kentucky. Heritage reports summarize the existing information known to the Kentucky Natural Heritage Program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. We would greatly appreciate receiving any pertinent information obtained as a result of on-site surveys.

Attachment B16-3
Data Request 13-056
March 27, 2013
Page 3

If you have any questions or if I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Sara Hines
Data Manager

SLD/SGH

Enclosures: Data Report and Interpretation Key

**Endangered, Threatened, and Special Concern
Plants, Animals, and Natural Communities by
HUC-11 Watershed(s)**

**Kentucky State Nature Preserves
Commission
801 Schenkel Lane
Frankfort, KY 40601
(502) 573-2886 (phone)
(502) 573-2355 (fax)**

www.naturepreserves.ky.gov

Attachment B16-5

Watershed Report of Endangered, Threatened, and Special Concern Plants, Animals, and Natural Communities of Kentucky
Kentucky State Nature Preserves Commission

Watershed	Taxonomic Group	Scientific name	Common name	Statuses	Ranks	# of Occurrences					
						E	H	F	X	U	
05130101450 - Little Laurel River											
05130101450	Vascular Plants	<i>Agalinis decemloba</i>	Ten-lobed False Foxglove	E/	G4Q / S1	1	0	0	0	0	
05130101450	Vascular Plants	<i>Ageratina luciae-brauniae</i>	Lucy Braun's White Snakeroot	S / SOMC	G3 / S3	3	0	0	0	0	
05130101450	Vascular Plants	<i>Baptisia tinctoria</i>	Yellow Wild Indigo	T/	G5 / S1S2	1	0	0	0	0	
05130101450	Vascular Plants	<i>Bartonia virginica</i>	Yellow Screwstem	T/	G5 / S2	4	0	0	0	0	
05130101450	Vascular Plants	<i>Calopogon tuberosus</i>	Grass Pink	E/	G5 / S1	0	0	0	1	0	
05130101450	Vascular Plants	<i>Carex gigantea</i>	Large Sedge	E/	G4 / S1S2	1	0	0	0	0	
05130101450	Vascular Plants	<i>Castanea pumila</i>	Allegheny Chinkapin	T/	G5 / S2	1	0	0	0	0	
05130101450	Vascular Plants	<i>Coeloglossum viride var. virescens</i>	Long-bract Green Orchis	X/	G5T5 / SX	0	0	0	3	0	
05130101450	Vascular Plants	<i>Eriophorum virginicum</i>	Tawny Cotton-grass	E/	G5 / S1?	1	0	0	0	0	
05130101450	Vascular Plants	<i>Gentiana decora</i>	Showy Gentian	S/	G4? / S3	1	0	0	0	0	
05130101450	Vascular Plants	<i>Gratiola pilosa</i>	Shaggy Hedgehyssop	T/	G5? / S2	3	0	0	0	0	
05130101450	Vascular Plants	<i>Gratiola viscidula</i>	Short's Hedgehyssop	S/	G4G5 / S3	1	1	0	3	0	
05130101450	Vascular Plants	<i>Hexastylis contracta</i>	Southern Heartleaf	E / SOMC	G3 / S1	2	0	0	0	0	
05130101450	Vascular Plants	<i>Hypericum crux-andreae</i>	St. Peter's-wort	T/	G5 / S2S3	3	2	0	0	0	
05130101450	Vascular Plants	<i>Lilium philadelphicum</i>	Wood Lily	T/	G5 / S2S3	2	0	0	0	0	
05130101450	Vascular Plants	<i>Lobelia nuttallii</i>	Nuttall's Lobelia	T/	G4G5 / S2	10	6	2	0	0	
05130101450	Vascular Plants	<i>Platanthera cristata</i>	Yellow-crested Orchid	T/	G5 / S1S2	6	3	0	0	0	
05130101450	Vascular Plants	<i>Platanthera integrilabia</i>	White Fringeless Orchid	E / C	G2G3 / S1	2	0	1	0	0	
05130101450	Vascular Plants	<i>Polygala cruciata</i>	Crossleaf Milkwort	E/	G5 / S1	0	3	0	0	0	
05130101450	Vascular Plants	<i>Potamogeton pulcher</i>	Spotted Pondweed	T/	G5 / S1S2	1	0	0	0	0	
05130101450	Vascular Plants	<i>Rhynchospora recognita</i>	Globe Beaked-rush	S/	G5? / S3	4	0	0	0	0	
05130101450	Vascular Plants	<i>Scleria ciliata</i>	Fringed Nutrush	N/	G5 / SNA	1	0	0	0	0	
05130101450	Vascular Plants	<i>Solidago gracillima</i>	Southern Bog Goldenrod	S/	G4? / S2?	2	0	0	0	0	
05130101450	Vascular Plants	<i>Solidago simplex ssp. randii var. racemosa</i>	Rand's Goldenrod	S/	G5T3? / S3	1	0	0	0	0	
05130101450	Vascular Plants	<i>Spiraea virginiana</i>	Virginia Spiraea	T / LT	G2 / S2	3	0	1	0	0	
05130101450	Vascular Plants	<i>Stenanthium gramineum</i>	Eastern Featherbells	T/	G4G5 / S2S3	2	0	0	1	0	
05130101450	Vascular Plants	<i>Symphotrichum concolor</i>	Eastern Silvery Aster	T/	G5 / S2	1	0	0	0	0	
05130101450	Vascular Plants	<i>Tephrosia spicata</i>	Spiked Hoary-pea	E/	G4G5 / S1S2	0	1	0	0	0	

Attachment B16-6

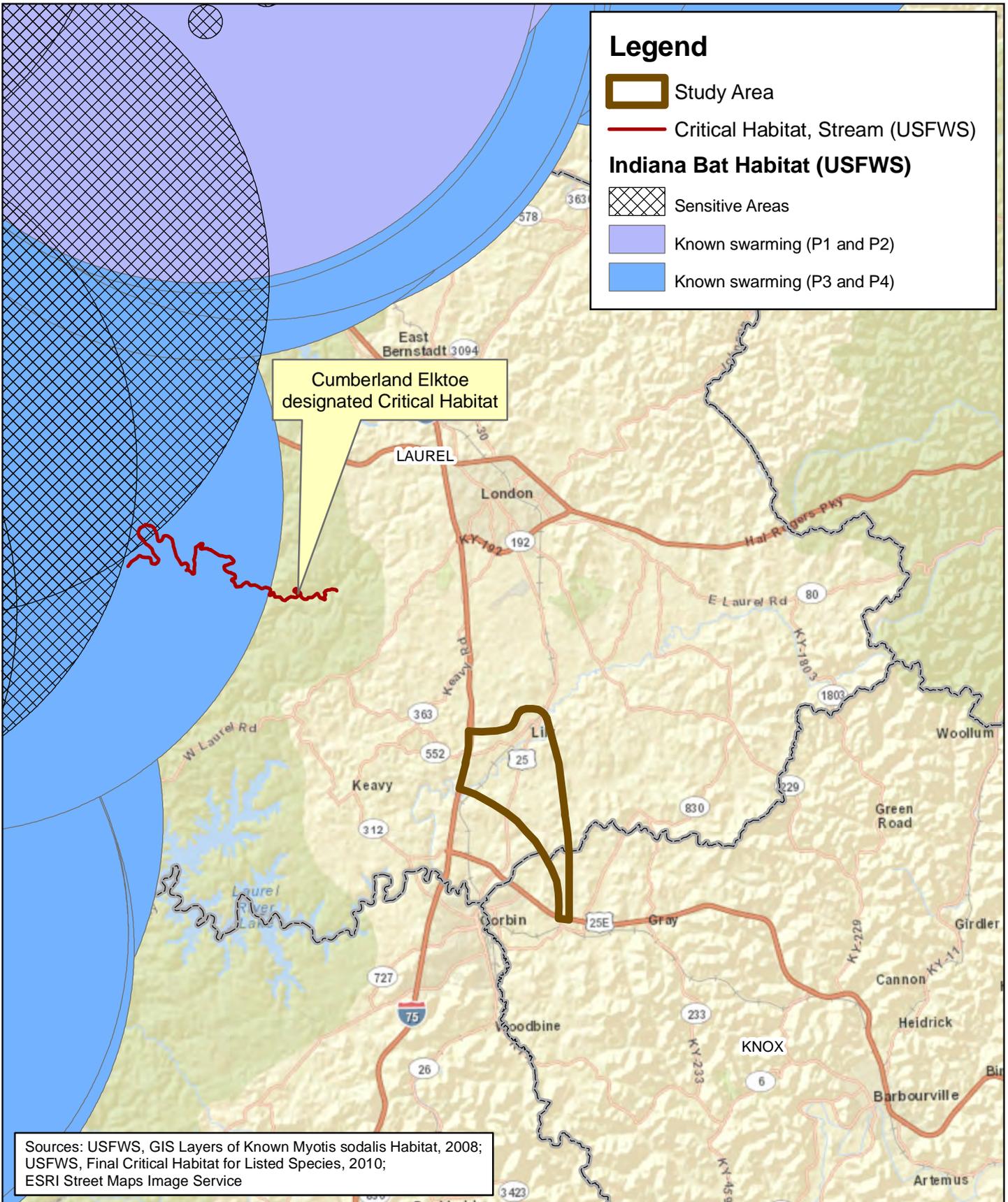
Watershed Report of Endangered, Threatened, and Special Concern Plants, Animals, and Natural Communities of Kentucky
Kentucky State Nature Preserves Commission

Watershed	Taxonomic Group	Scientific name	Common name	Statuses	Ranks	# of Occurrences				
						E	H	F	X	U
05130101450	Vascular Plants	<i>Vernonia noveboracensis</i>	New York Ironweed	N /	G5 / S3S4	12	0	0	1	0
05130101450	Gastropods	<i>Fumonelix wetherbyi</i>	Clifty Covert	S /	G2G3 / S2	2	0	0	0	0
05130101450	Freshwater Mussels	<i>Alasmidonta atropurpurea</i>	Cumberland Elktoe	E / LE STWG	G1G2 / S1	0	0	0	1	0
05130101450	Freshwater Mussels	<i>Anodontoides denigratus</i>	Cumberland Papershell	E / SOMC STWG	G1 / S1	0	0	0	3	0
05130101450	Crustaceans	<i>Cambarus buntingi</i>	Longclaw Crayfish	S / Currently Stable	G4Q / S3S4	4	0	0	0	0
05130101450	Insects	<i>Lytrosis permagnaria</i>	A Geometrid Moth	E / SOMC	G3G4 / S1	0	3	0	0	0
05130101450	Insects	<i>Nannothemis bella</i>	Elfin Skimmer	E /	G4 / S1S2	0	4	0	0	0
05130101450	Insects	<i>Polygonia faunus</i>	Green Comma	H /	G5 / SH	0	3	0	0	0
05130101450	Insects	<i>Speyeria idalia</i>	Regal Fritillary	H / SOMC	G3 / SH	0	0	0	1	0
05130101450	Reptiles	<i>Eumeces anthracinus</i>	Coal Skink	T / STWG	G5 / S2	1	0	0	0	0
05130101450	Reptiles	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pine Snake	E / SOMC STWG	G4T4 / S2	0	1	0	0	0
05130101450	Breeding Birds	<i>Aimophila aestivalis</i>	Bachman's Sparrow	E / SOMC STWG	G3 / S1B	0	0	0	1	0
05130101450	Breeding Birds	<i>Ardea herodias</i>	Great Blue Heron	N /	G5 / S3B,S4N	1	0	0	0	0
05130101450	Breeding Birds	<i>Cistothorus platensis</i>	Sedge Wren	S / STWG	G5 / S3B	0	2	0	0	0
05130101450	Breeding Birds	<i>Haliaeetus leucocephalus</i>	Bald Eagle	T / Delisted STWG	G5 / S2B,S2S3N	2	0	0	0	0
05130101450	Breeding Birds	<i>Picoides borealis</i>	Red-cockaded Woodpecker	X / LE STWG	G3 / SX	0	0	0	1	0
05130101450	Mammals	<i>Mustela nivalis</i>	Least Weasel	S /	G5 / S2S3	1	0	0	0	0
05130101450	Communities	<i>Appalachian seep/bog</i>		T /	GNR / S1S2	2	0	0	0	0
05130101450	Communities	<i>Cumberland Plateau gravel/cobble bar</i>		E /	GNR / S1S2	3	0	0	0	0
Watershed Total:						85	29	4	16	0
05130101460 - Horse Creek										
05130101460	Vascular Plants	<i>Coeloglossum viride var. virescens</i>	Long-bract Green Orchis	X /	G5T5 / SX	0	0	0	3	0
05130101460	Vascular Plants	<i>Lobelia nuttallii</i>	Nuttall's Lobelia	T /	G4G5 / S2	0	3	0	0	0
05130101460	Vascular Plants	<i>Platanthera cristata</i>	Yellow-crested Orchid	T /	G5 / S1S2	0	3	0	0	0

Attachment B16-7

Watershed Report of Endangered, Threatened, and Special Concern Plants, Animals, and Natural Communities of Kentucky
 Kentucky State Nature Preserves Commission

Watershed	Taxonomic Group	Scientific name	Common name	Statuses	Ranks	# of Occurrences				
						E	H	F	X	U
05130101460	Vascular Plants	<i>Polygala cruciata</i>	Crossleaf Milkwort	E /	G5 / S1	0	3	0	0	0
05130101460	Freshwater Mussels	<i>Alasmidonta atropurpurea</i>	Cumberland Elktoe	E / LE STWG	G1G2 / S1	0	3	0	0	0
05130101460	Freshwater Mussels	<i>Anodontoides denigratus</i>	Cumberland Papershell	E / SOMC STWG	G1 / S1	0	0	0	5	0
Watershed Total:						0	12	0	8	0



April 2013

Corbin Bypass (KY 3041) Extension

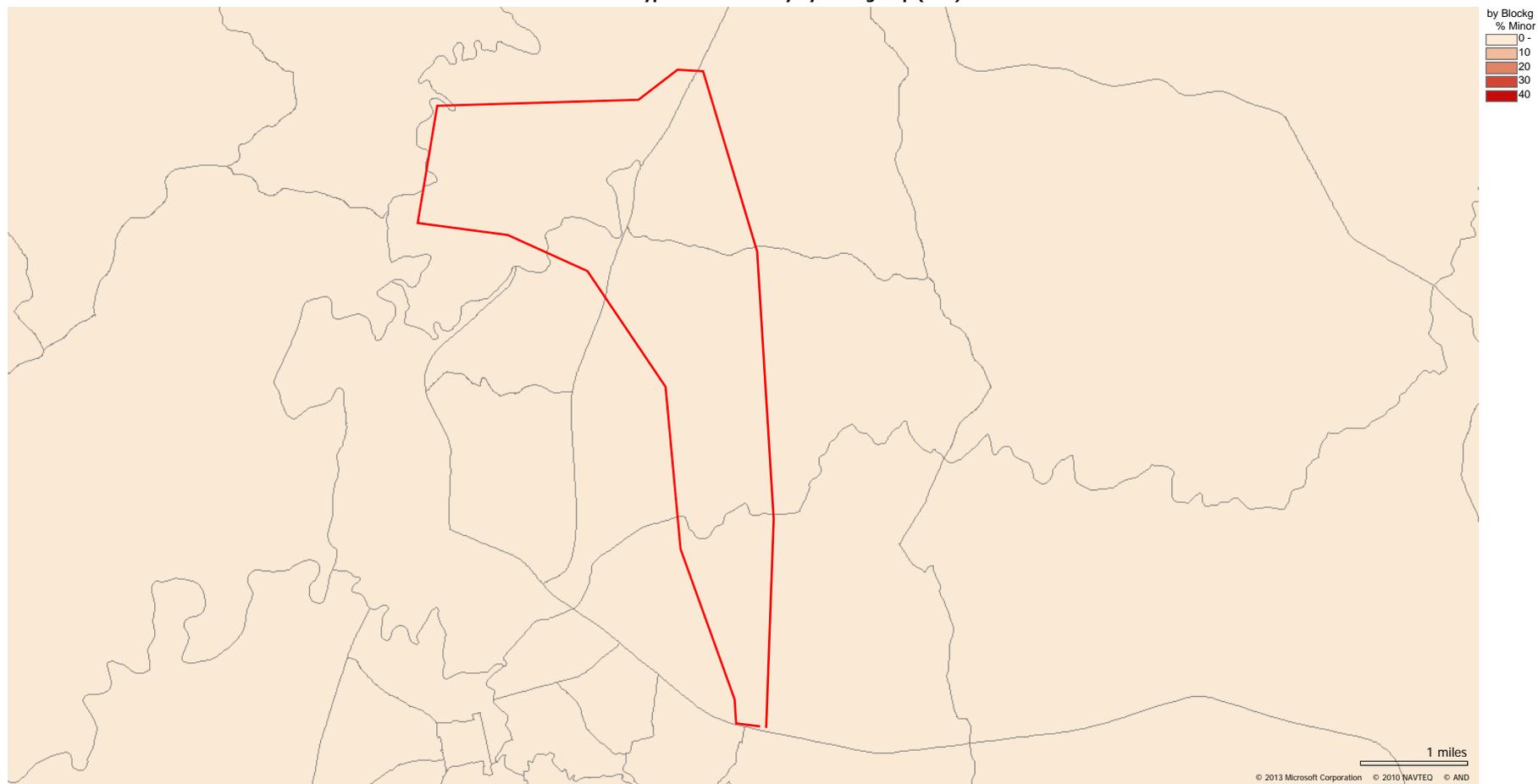
KYTC Item #11-190.00
Knox and Laurel Counties

Attachment B17

**Known Threatened
& Endangered Species Habitat
in Project Vicinity**

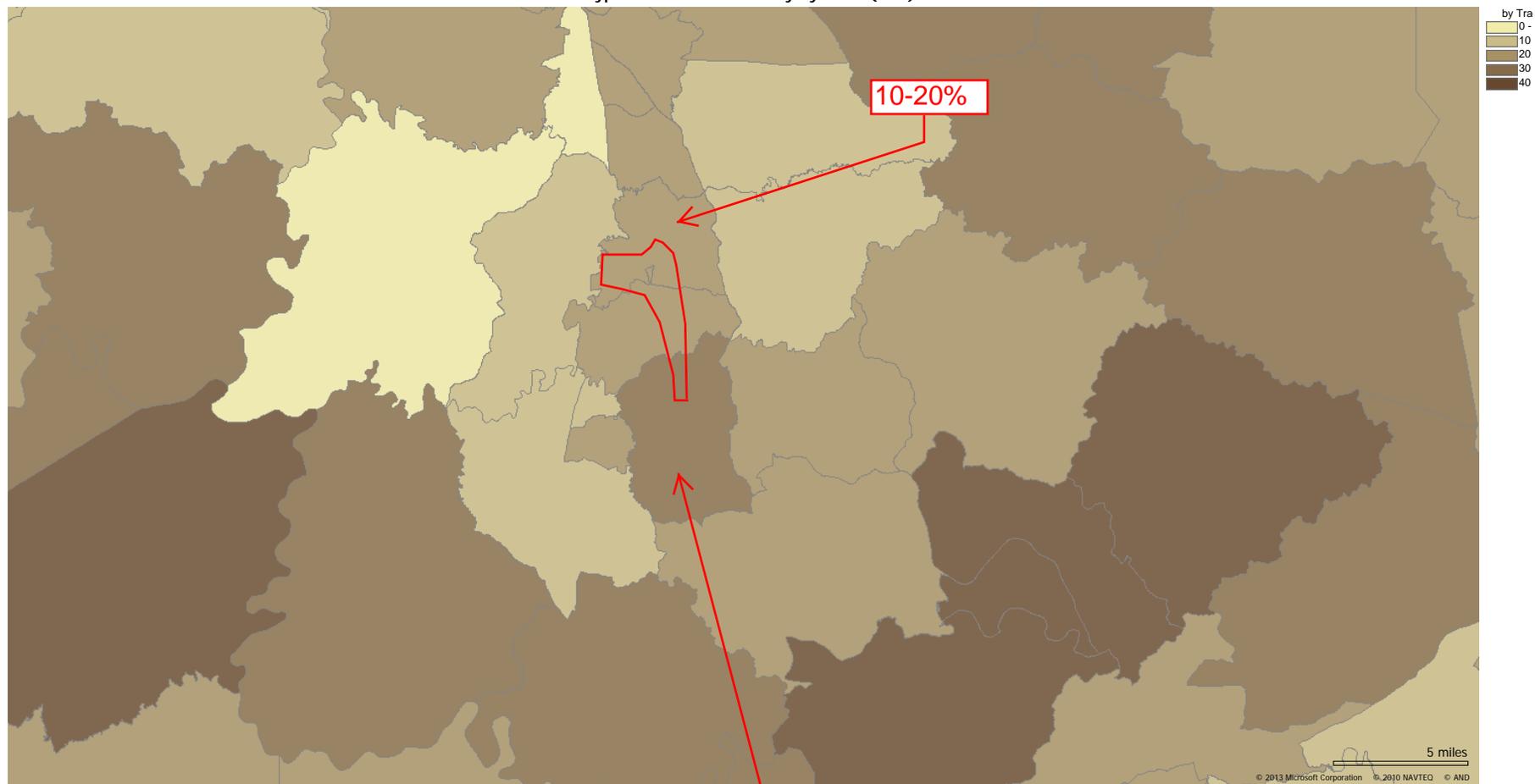
Attachment B18-1

Corbin Bypass - % Minority by Blockgroup (SF1) 2010



Attachment B18-2

Corbin Bypass - % Below Poverty by Tract (ACS) 2010



WASTE Records

fac_id	name	addr	city	state	zip
110000591137	Aisin Automotive Casting Llc	4870 E. HWY. 552	LONDON	KY	40744-9532
110000834410	American Greetings Corporation	259 AMERICAN GREETINGS ROAD	CORBIN	KY	40701
110008364858	Ashland Branded Marketing Inc. 031-101	ROUTE 80 EAST	BUSH	KY	40724
110006498058	Brandeis Machinery	1484 AMERICAN GREETING CARD ROAD	CORBIN	KY	40701-4813
110044281862	Circle T Oil & Recycling Service	116 CHASE LANE	CORBIN	KY	40701
110022303504	Circle T Oil & Recycling Service	AMERICAN GREETING CARD RD	CORBIN	KY	40701
110046438388	City Utilities Commission	155 BOONE ST	CORBIN	KY	40701
110003253568	Cold Hill Grocery	5820 W LAUREL RD	LONDON	KY	40741
110008370645	Crossroads Market	JCT 229 & 1189	LONDON	KY	40741
110013835733	Cta Acoustics Inc	296 ROBERT E COX ROAD	CORBIN	KY	40701
110033156144	D & T Oil & Recycling Service	320 NORTH HWY. 1223	CORBIN	KY	40701-4830
110008367418	Dairy Mart #62	US 127 & TRAMMELL	LIBERTY	KY	42539
110044281853	Environmental Emergency Response	116 CHASE LANE	CORBIN	KY	40701
110008363797	Gambrel Toyota	1185 E. CUMBERLAND GAP PARKWAY	CORBIN	KY	40701
110003254273	Hinkle And Helton Food Market	KY 312	KEAVY	KY	40737
110031318759	Kentucky Cabinet Corporation	260 AMERICAN GREETINGS ROAD	CORBIN	KY	40701-4801
110039085487	Kmart #9513	997 CUMBERLAND GAP PARKWAY	CORBIN	KY	40701
110037390711	Kroger Co - Store 760	14889 NORTH US HWY 25E	CORBIN	KY	40701
110008370725	Kydoh Fe02-063-0075-030.56(B43)	I-75 OVER LAUREL RIVER	LONDON	KY	40741
110003250008	Kydoh Fe02-063-0075-049.10(B36)	KY 909 OVER I-75	LONDON	KY	40741
110037392005	Lowe'S Of Corbin #494	777 WEST CUMBERLAND GAP PKWY	CORBIN	KY	40701-4822
110006543561	Mattingly Grocery	9490 BARBOURVILLE RD	LONDON	KY	40744
110006017416	Mcclure'S Auto Glass Center	7435 S US HWY 25	CORBIN	KY	40701-4961
110003254353	Mlf Knuckles Md Psc	1101 E MASTER ST	CORBIN	KY	40701-3511
110003228258	Na-Jen, Inc.	BOX 469B AMERICAN GREETING RD.	CORBIN	KY	40702
110007035243	Ncr Corporation	SYSTEMEDIA DR	CORBIN	KY	40701
110008991671	Pilot Travel Centers Llc #231	311 WEST CUMBERLAND GAP PKWY	CORBIN	KY	40701-4818
110043660473	Southeastern Ky E-Scrap	21 VALLEYBROOK PLACE	CORBIN	KY	40701
110022305968	Stallion Oil Company	JENNY LANE	CORBIN	KY	40701
110012573937	Steward Chevron	34 ADAMS RD	CORBIN	KY	40701
110006017354	Tco Inc	1349 HWY. 3041	CORBIN	KY	40701-7947
110033156126	Town & Country Quik Stop	1414 AMERICAN GREETING CARD ROAD	CORBIN	KY	40701
110006015784	Tri-Co Wood Preserving	1377 NORTH HIGHWAY 1223	CORBIN	KY	40701-4840
110020747511	Wal-Mart Supercenter #1259	60 SOUTH STEWART RD	CORBIN	KY	40701-4675
110046430938	Walgreens Store #12111	990 E CUMBERLAND GAP PKWY	CORBIN	KY	40701

Attachment B20

KY 3041 Extension

Knox-Laurel County

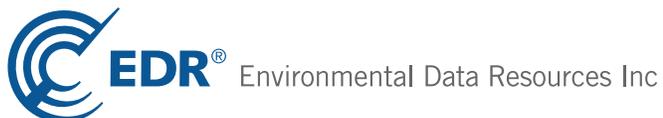
Corbin, KY 40701

Inquiry Number: 3559661.1s

March 27, 2013

The EDR Radius Atlas™ with GeoCheck®

EXCERPT



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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

KNOX-LAUREL COUNTY
CORBIN, KY 40701

COORDINATES

Latitude (North): 36.9911000 - 36° 59' 27.96"
Longitude (West): 84.0641000 - 84° 3' 50.76"
Universal Transverse Mercator: Zone 16
UTM X (Meters): 761293.5
UTM Y (Meters): 4097712.0
Elevation: 1182 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 36084-H1 CORBIN, KY
Most Recent Revision: 1978

North Map: 37084-A1 LILY, KY
Most Recent Revision: 1970

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites

EXECUTIVE SUMMARY

NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators

Federal institutional controls / engineering controls registries

US ENG CONTROLS..... Engineering Controls Sites List

US INST CONTROL..... Sites with Institutional Controls

LUCIS..... Land Use Control Information System

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

INDIAN UST..... Underground Storage Tanks on Indian Land

FEMA UST..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Site Listing

INST CONTROL..... State Superfund Database

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

EXECUTIVE SUMMARY

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
SPILLS..... State spills

Other Ascertainable Records

DOT OPS..... Incident and Accident Data
FUDS..... Formerly Used Defense Sites
CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
UMTRA..... Uranium Mill Tailings Sites
TRIS..... Toxic Chemical Release Inventory System
TSCA..... Toxic Substances Control Act
SSTS..... Section 7 Tracking Systems
MLTS..... Material Licensing Tracking System
RADINFO..... Radiation Information Database
RAATS..... RCRA Administrative Action Tracking System
INDIAN RESERV..... Indian Reservations
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
COAL ASH..... Coal Ash Disposal Sites
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
COAL ASH DOE..... Steam-Electric Plant Operation Data
PCB TRANSFORMER..... PCB Transformer Registration Database
US FIN ASSUR..... Financial Assurance Information
2020 COR ACTION..... 2020 Corrective Action Program List
PRP..... Potentially Responsible Parties
EPA WATCH LIST..... EPA WATCH LIST

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS list

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 02/04/2013 has revealed that there are 2 CERCLIS sites within approximately 4 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CTA ACOUSTICS FIRE	296 ROBERT E. COX RD	WSW >2 (2.067 mi.)	N59	128
LAUREL RIDGE LANDFILL	HIGHWAY 552	NNW >2 (3.497 mi.)	194	316

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-TSDF list, as provided by EDR, and dated 02/12/2013 has revealed that there is 1 RCRA-TSDF site within approximately 4 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CTA ACOUSTICS	ROBERT E. COX ROAD	WSW >2 (2.036 mi.)	51	113

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 02/12/2013 has revealed that there is 1 RCRA-SQG site within approximately 3.75 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
WAL-MART SUPERCENTER #1259	60 SOUTH STEWART RD	WSW >2 (2.642 mi.)	W106	183

EXECUTIVE SUMMARY

RCRA-CESQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-CESQG list, as provided by EDR, and dated 02/12/2013 has revealed that there are 9 RCRA-CESQG sites within approximately 3.75 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
GAMBREL TOYOTA	1185 E. CUMBERLAND GAP	S >2 (2.659 mi.)	108	188
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
KENTUCKY CABINET CORPORATION	260 AMERICAN GREETINGS	SW 1 - 2 (1.829 mi.)	I31	59
LOWE'S OF CORBIN #494	777 WEST CUMBERLAND GAP	SW >2 (2.167 mi.)	P68	134
KROGER CO - STORE 760	14889 NORTH US HWY 25E	SSW >2 (2.284 mi.)	Q76	148
KMART #9513	997 CUMBERLAND GAP PARKS	>2 (2.475 mi.)	S89	162
WALGREENS STORE #12111	990 E CUMBERLAND GAP PK	S >2 (2.479 mi.)	S91	164
CSX TRANSPORTATION CORBIN YARD	100 LYNN AVENUE	SSW >2 (3.485 mi.)	AP190	305
CORBIN ONE HOUR CLEANERS	315 S MAIN ST	SSW >2 (3.593 mi.)	AR198	326
CENTRAL AUTOMOTIVE SUPPLY, INC	707 SOUTH MAIN STREET	SSW >2 (3.735 mi.)	AU214	352

Federal ERNS list

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 12/31/2012 has revealed that there are 11 ERNS sites within approximately 3.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	1371 LONDON HIGHWAY	WSW 1/2 - 1 (0.923 mi.)	A3	32
Not reported	EXIT 29 ON I-75	WSW >2 (2.769 mi.)	Z125	221
Not reported	EXIT 29 OFF I-75 ON CUM	WSW >2 (2.769 mi.)	Z126	221
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	AMERICAN GREETING CARD	W 1 - 2 (1.787 mi.)	H27	48
Not reported	AMERICAN GREETING RD	W 1 - 2 (1.787 mi.)	H28	48
Not reported	296 ROBERT E COX ROAD	WSW >2 (2.067 mi.)	N62	132
Not reported	296 ROBERT COX RD	WSW >2 (2.075 mi.)	N64	132
Not reported	1878 ROBINSON CREEK RD	E >2 (2.896 mi.)	AC142	239
Not reported	1878 ROBINSON CREEK RD	E >2 (2.896 mi.)	AC143	239
Not reported	1878 ROBINSON CREEK RD	E >2 (2.896 mi.)	AC145	240
Not reported	307 FOLEY RD.	SW >2 (2.968 mi.)	151	257

EXECUTIVE SUMMARY

State- and tribal - equivalent CERCLIS

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Environmental Protection's Uncontrolled Site Branch List.

A review of the SHWS list, as provided by EDR, and dated 01/02/2013 has revealed that there are 13 SHWS sites within approximately 4.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
D & K MANAGEMENT PROPERTY Facility Status: Closed	67 ROBERT E COX ROAD, A	WSW 1 - 2 (1.703 mi.)	23	47
AMERICAN GREETINGS CORP Facility Status: Closed	259 AMERICAN GREETINGS	SW 1 - 2 (1.828 mi.)	I30	49
D & K MANAGEMENT PROPERTY Facility Status: Closed	145 ROBERT E. COX ROAD	WSW 1 - 2 (1.840 mi.)	37	82
DG TRUCKING Facility Status: Closed	1282 ROBINSON CREEK ROA	WNW 1 - 2 (1.947 mi.)	40	85
PILOT TRAVEL CENTER 231 Facility Status: Closed	311 W CUMBERLAND GAP PKS	SW 1 - 2 (1.995 mi.)	K46	110
BRAY PROPERTY Facility Status: Closed	CUMBERLAND GAP APARTME	SSW >2 (2.055 mi.)	L54	122
LONDON NATIONAL GUARD ARMORY Facility Status: Closed	20 STATE POLICE RD	N >2 (2.142 mi.)	67	133
USDA RURAL DEVELOPMENT PROPERT Facility Status: Closed	1265 STANDARD AVE., APT	SSW >2 (2.802 mi.)	130	223
CORBIN WWTP Facility Status: Closed	155 BOONE STREET	SW >2 (2.852 mi.)	AA134	227
GRAY PROPERTY Facility Status: Closed	515 ROY KIDD AVE.	SSW >2 (3.124 mi.)	163	273
BIRCHFIELD PROPERTY Facility Status: Closed	103 MITCHELL STREET	SW >2 (3.942 mi.)	AX222	372
OLD CORBIN HOSPITAL Facility Status: Closed	110 MITCHELL ST	SW >2 (3.948 mi.)	AX223	373
CLIFTON PROPERTY Facility Status: Closed	622 17TH STREET	SSW >2 (4.481 mi.)	226	379

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Environmental Protection's List of All Active Contained & Residential Landfills/List of All Transfer Stations.

A review of the SWF/LF list, as provided by EDR, and dated 11/28/2012 has revealed that there are 5

EXECUTIVE SUMMARY

SWF/LF sites within approximately 4 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
KY TIRE DISPOSAL	477 US 25 W	SW >2 (2.262 mi.)	73	146
CORBIN WWTP	155 BOONE STREET	SW >2 (2.852 mi.)	AA134	227
DALE GREER CD&D LANDFILL 1	2120 ROBINSON CREEK RD	E >2 (2.955 mi.)	150	256
CORBIN RECYCLING CENTER	707 S MAIN ST	SSW >2 (3.735 mi.)	AU215	354
CITY UTILITIES COMMISSION	901 SOUTH MAIN STREET	SSW >2 (3.852 mi.)	AW221	368

State and tribal leaking storage tank lists

SB193: The inventory indicates facilities that have performed permanent closure activities at a regulated underground storage tank facility and have known soil and/or groundwater contamination.

A review of the SB193 list, as provided by EDR, and dated 09/05/2006 has revealed that there are 9 SB193 sites within approximately 4 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PILOT TRAVEL CENTER #231	311 W CUMBERLAND GAP PK	WSW >2 (2.786 mi.)	128	222
DAIRY MART #461	1142 GORDON HILL PIKE	SW >2 (3.750 mi.)	AV219	365
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
PILOT TRAVEL CENTER 231	311 W CUMBERLAND GAP PK	SW 1 - 2 (1.995 mi.)	K46	110
L & M QUICK STOP	607 HWY 25 W	SW >2 (2.381 mi.)	R84	158
TRADEMART CITGO	990 E CUMBERLAND GAP	S >2 (2.479 mi.)	S93	166
BETTY'S FLOWERS	612 MASTERS ST	SSW >2 (2.974 mi.)	AE154	260
EAST CORBIN FIRE DEPARTMENT	MASTER ST @ FORD & CHRI	SSW >2 (3.131 mi.)	AI165	275
MARVINS AUTO PLUS	9TH & MAIN ST	SSW >2 (3.851 mi.)	AW220	365
TOM'S TIRE	1103 S MAIN ST	SSW >2 (3.959 mi.)	AY224	376

PSTEAF: The Underground Storage Tank Branch (USTB) has ranked all PSTEAF reimbursable facilities requiring corrective action, in accordance with 401 KAR 42:290. Directive letters will be issued on the basis of facility ranking and available PSTEAF funding in sequential order as ranked. For example, Rank 2 facilities will be issued directives before Rank 3 facilities.

A review of the PSTEAF list, as provided by EDR, and dated 01/01/2013 has revealed that there are 3 PSTEAF sites within approximately 4 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
DAIRY MART #3291	1142 GORDON HILL PIKE	SW >2 (3.750 mi.)	AV218	362
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TRADEMART CITGO	990 E CUMBERLAND GAP	S >2 (2.479 mi.)	S93	166
SOUTHSIDE TIRES	1103 S MAIN ST	SSW >2 (3.959 mi.)	AY225	377

EXECUTIVE SUMMARY

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Protection's Owner/Facility Report of All Tanks Regardless of Status list.

A review of the UST list, as provided by EDR, and dated 10/01/2012 has revealed that there are 43 UST sites within approximately 3.75 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
BRANDEIS MACHINERY & SUPPLY CO	1484 AMERICAN GREETINGS	W 1 - 2 (1.662 mi.)	22	44
BELK SIMPSON COMPANY	TRADEMART SHOPPING CENT	S >2 (2.266 mi.)	74	147
CHRISTIAN CH CAMPUS SE	COMMONWEALTH AVE	SSW >2 (2.362 mi.)	81	155
CORBIN #106	8198 KY 1232	S >2 (2.635 mi.)	102	177
CORBIN SHELL	KY 770 & I-75	WSW >2 (2.761 mi.)	Z124	217
KRISNICK MARATHON	34 ADAMS RD	WSW >2 (2.887 mi.)	AB139	235
LOVE'S TRAVEL STOP 321	222 KY 770	WSW >2 (2.994 mi.)	AF156	261
E-Z FOOD MART	2020 LILY RD	NNW >2 (3.654 mi.)	203	336
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CERTAINTED CORP	AMERICA GREETING RD	WSW 1 - 2 (1.612 mi.)	17	41
AMERICAN GREETINGS CORP	259 AMERICAN GREETINGS	SW 1 - 2 (1.828 mi.)	I30	49
JOHNS STOP & GO	354 W CUMBERLAND GAP PK	SW 1 - 2 (1.986 mi.)	41	86
PILOT TRAVEL CENTER 231	311 W CUMBERLAND GAP RDS	SW 1 - 2 (1.995 mi.)	K45	94
PEER SERVICE STATION 6	US 25 W	SW >2 (2.060 mi.)	M56	124
RUDD EQUIPMENT CO	HIGHWAY 25 EAST	WSW >2 (2.258 mi.)	71	136
KROGER L-760	14889 N US 25 E STE A	SSW >2 (2.284 mi.)	Q78	151
PIT STOP	1120 W CUMBERLAND GAP P	WSW >2 (2.310 mi.)	80	153
FORMER L & M QUICK STOP	1371 LONDON HWY	SW >2 (2.371 mi.)	R82	156
TRADEMART CITGO	990 E CUMBERLAND GAP	S >2 (2.479 mi.)	S93	166
MURPHY OIL USA INC 5777	48 S STEWART RD	WSW >2 (2.664 mi.)	W109	205
HELTON OIL CORP	1100 MASTER ST	SSW >2 (2.749 mi.)	Y120	209
MLF KNUCKLES MD PSC	1101 E MASTER ST	SSW >2 (2.750 mi.)	Y123	214
WALLENS WRECKER SERVICE	1009 MASTER ST	SSW >2 (2.830 mi.)	131	223
MEGA MART	918 MASTER ST	SSW >2 (2.859 mi.)	136	229
LANHAMS MARATHON	885 HWY 25 W	SW >2 (2.902 mi.)	AD148	250
BETTYS FLOWERS	612 MASTERS ST	SSW >2 (2.974 mi.)	AE153	257
E-Z MART	501 MASTER ST	SSW >2 (3.097 mi.)	AH162	271
EAST CORBIN FIRE DEPARTMENT	MASTER ST @ FORD & CHRI	SSW >2 (3.131 mi.)	AI165	275
CITY OF CORBIN (GARAGE)	N LAUREL AVE	SSW >2 (3.241 mi.)	AJ167	278
CHEVRON 49191	UNION & LAUREL AVE	SSW >2 (3.281 mi.)	169	281
CHRISTIAN APPALACHIAN PROJECT	201 INDUSTRIAL BLVD.	S >2 (3.296 mi.)	AK171	285
CHRISTIAN APPALACHIAN PROJECT	210 INDUSTRIAL BLVD	S >2 (3.298 mi.)	AK173	292
AMOCO CAR RENU	108 N LAUREL	SSW >2 (3.305 mi.)	AL174	293
WILLIAMS PROP 32 ITEM NO 11-12	LAUREL AVE US 25W	SSW >2 (3.338 mi.)	177	296
PARCEL 34	104 E CENTER ST	SSW >2 (3.402 mi.)	AM179	297
FOLEYS SERVICE CENTER	217 N MAIN ST	SSW >2 (3.476 mi.)	AO186	300
SEABOARD SYSTEM RR	LYNN AVE	SSW >2 (3.485 mi.)	AP188	302
CSX TRANSPORTATION CORBIN YARD	100 LYNN AVENUE	SSW >2 (3.485 mi.)	AP190	305
ADVANCED CHECK & TITLE	415 S MAIN ST	SSW >2 (3.629 mi.)	202	334
G & E PHILLIPS 66 SERVICE	508 S MAIN ST	SSW >2 (3.661 mi.)	AS207	340
ELLICON CORBIN INC	5581 S HWY 25	S >2 (3.683 mi.)	AT208	343
CORBIN CO GLC 52145	400 W THIRD ST	SSW >2 (3.684 mi.)	209	346
TOWN & COUNTRY QUICK STOP	1414 AMERICAN GREETING	S >2 (3.699 mi.)	AT212	349
MAJIK MKT 092 15 (EZ SERVE 709	711 S MAIN ST	SSW >2 (3.736 mi.)	AU217	356

EXECUTIVE SUMMARY

State and tribal Brownfields sites

BROWNFIELDS: The Kentucky Brownfield Program has created an inventory of brownfield sites in order to market the properties to those interested in brownfield redevelopment. The Kentucky Brownfield Program is working to promote the redevelopment of these sites by helping to remove barriers that prevent reuse, providing useful information to communities, developers and the public and encouraging a climate that fosters redevelopment of contaminated sites.

A review of the BROWNFIELDS list, as provided by EDR, and dated 02/14/2013 has revealed that there is 1 BROWNFIELDS site within approximately 4 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>Not reported</i>	<i>529 MASTER STREET</i>	<i>SSW >2 (3.020 mi.)</i>	<i>AG158</i>	<i>266</i>

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: The EPA's listing of Brownfields properties from the Cleanups in My Community program, which provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

A review of the US BROWNFIELDS list, as provided by EDR, and dated 12/10/2012 has revealed that there is 1 US BROWNFIELDS site within approximately 4 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>529 MASTER ST CORBIN</i>	<i>529 MASTER ST</i>	<i>SSW >2 (3.020 mi.)</i>	<i>AG159</i>	<i>268</i>

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: This solid waste facility listing contains detail information that is not included in the landfill listing. A listing with detail information is no longer available by the Department of Environmental Protection.

A review of the HIST LF list, as provided by EDR, and dated 05/01/2003 has revealed that there are 2 HIST LF sites within approximately 4 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>DG TRUCKING</i>	<i>1282 ROBINSON CREEK ROA</i>	<i>WNW 1 - 2 (1.947 mi.)</i>	<i>40</i>	<i>85</i>
<i>CORBIN RECYCLING CENTER</i>	<i>707 S MAIN ST</i>	<i>SSW >2 (3.735 mi.)</i>	<i>AU215</i>	<i>354</i>

SWRCY: A listing of recycling facilities located in the state of Kentucky.

A review of the SWRCY list, as provided by EDR, and dated 10/26/2010 has revealed that there are 3 SWRCY sites within approximately 4 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>WAL-MART</i>	<i>60 SOUTH STEWART ROAD</i>	<i>WSW >2 (2.642 mi.)</i>	<i>W105</i>	<i>183</i>

EXECUTIVE SUMMARY

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
JACKSON RECYCLING	3047 ECHO VALLEY RD.	ENE >2 (2.701 mi.)	112	207
CITY OF CORBIN RECYCLING	701 MAIN STREET	SSW >2 (3.732 mi.)	AU213	352

Local Lists of Hazardous waste / Contaminated Sites

US CDL: A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

A review of the US CDL list, as provided by EDR, and dated 11/14/2012 has revealed that there are 3 US CDL sites within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
98 UNDERPASS LN	98 UNDERPASS LN	NNW >2 (2.297 mi.)	79	153
553 WATCH AVE	553 WATCH AVE	SSE >2 (2.705 mi.)	X114	208
553 WATCH ROAD	553 WATCH ROAD	SSE >2 (2.709 mi.)	X117	209

CDL: Clandestine drug lab site locations.

A review of the CDL list, as provided by EDR, and dated 01/02/2013 has revealed that there are 5 CDL sites within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
D & K MANAGEMENT PROPERTY	67 ROBERT E COX ROAD, A	WSW 1 - 2 (1.703 mi.)	23	47
D & K MANAGEMENT PROPERTY	145 ROBERT E. COX ROAD	WSW 1 - 2 (1.840 mi.)	37	82
BRAY PROPERTY	CUMBERLAND GAP APARTMENTS	SSW >2 (2.055 mi.)	L53	122
USDA RURAL DEVELOPMENT PROPERT	1265 STANDARD AVE., APT	SSW >2 (2.802 mi.)	130	223
GRAY PROPERTY	515 ROY KIDD AVE.	SSW >2 (3.124 mi.)	163	273

US HIST CDL: A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

A review of the US HIST CDL list, as provided by EDR, and dated 09/01/2007 has revealed that there are 2 US HIST CDL sites within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
98 UNDERPASS LN	98 UNDERPASS LN	NNW >2 (2.297 mi.)	79	153
553 WATCH RD	553 WATCH RD	SSE >2 (2.709 mi.)	X116	208

EXECUTIVE SUMMARY

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 02/12/2013 has revealed that there are 19 RCRA NonGen / NLR sites within approximately 3.75 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
STEWART CHEVRON	34 ADAMS RD	WSW >2 (2.887 mi.)	AB138	233
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
AMERICAN GREETINGS CORPORATION	259 AMERICAN GREETING R	SW 1 - 2 (1.829 mi.)	I36	66
PILOT TRAVEL CENTER 231	311 W CUMBERLAND GAP RDSW 1 - 2 (1.995 mi.)		K45	94
CTA ACOUSTICS	ROBERT E. COX ROAD	WSW >2 (2.036 mi.)	51	113
R. U. LARSON PROPERTY	AMERICAN GREETING RD &	SW >2 (2.045 mi.)	52	121
KYDOH ITEM 11-126 P-6	US 25 WEST	SW >2 (2.060 mi.)	M55	123
KYDOH ITEM 11-126 P-110	US 25 WEST	SW >2 (2.060 mi.)	M57	126
KYDOH ITEM 11-126 P-97	US 25 WEST	SW >2 (2.060 mi.)	M58	127
RUDD EQUIPMENT CO	HIGHWAY 25 EAST	WSW >2 (2.258 mi.)	71	136
KYDOH FE02-063-0075-030.56(B43	I-75 OVER LAUREL RIVER	WNW >2 (2.405 mi.)	85	159
LANHAM MARATHON	885 U. S. HWY 25 W	SW >2 (2.622 mi.)	T98	171
MLF KNUCKLES MD PSC	1101 E MASTER ST	SSW >2 (2.750 mi.)	Y122	213
CITY UTILITIES COMMISSION	155 BOONE ST	SW >2 (2.852 mi.)	AA133	226
CORBIN, CITY OF EAST CORBIN FI	CORNER MASTERS ST. & CH	SSW >2 (3.124 mi.)	AI164	273
CHRISTIAN APPALACHIAN PROJECT	201 INDUSTRIAL BLVD.	S >2 (3.296 mi.)	AK171	285
ELICON CORBIN DIVISION	201 INDUSTRIAL BLVD	S >2 (3.296 mi.)	AK172	290
CSX TRANSPORTATION, DIV. OFFIC	LYNN AVE. & OFFICE BLDG	SSW >2 (3.485 mi.)	AP189	304
CORBIN RADIATOR SERVICE	5TH & LYNN STS	SSW >2 (3.619 mi.)	201	333
711 PROPERTIES INC	711 S MAIN ST	SSW >2 (3.736 mi.)	AU216	355

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 4.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
LAUREL RIVER LAKE		WSW >2 (3.799 mi.)	0	31

US MINES: Mines Master Index File. The source of this database is the Dept. of Labor, Mine Safety and Health Administration.

A review of the US MINES list, as provided by EDR, and dated 08/18/2011 has revealed that there are 17 US MINES sites within approximately 3.75 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
F & J CONSTRUCTION CO		SSE 1/2 - 1 (0.680 mi.)	1	31

EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
LEECO INC		E 1 - 2 (1.523 mi.)	10	35
COFFEY ENERGY CORP		WNW >2 (2.438 mi.)	87	161
BILFRED COAL CO INC		NNE >2 (2.497 mi.)	95	169
HIXON & MCFADDEN RESOURCE		NNW >2 (3.160 mi.)	166	278
SNYDER & WILLIAMS(DBA)S&P		NNW >2 (3.495 mi.)	AQ191	315
AMERI COAL CRP		NNW >2 (3.495 mi.)	AQ192	315
SUBREG CRP		NNW >2 (3.495 mi.)	AQ193	315
R M & S COAL COMPANY		WNW >2 (3.587 mi.)	197	325

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
MOUNTAIN CLAY INC		ENE 1 - 2 (1.638 mi.)	G20	43
LEECO INC		ENE 1 - 2 (1.638 mi.)	G21	44
J.Y.B. COAL CO., INC.		ENE 1 - 2 (1.783 mi.)	26	48
ST. HELENS PROCESSING, IN		N >2 (2.006 mi.)	49	112
APEX MINING INC		NW >2 (2.835 mi.)	132	226
MEDLIN COAL CO INC		SE >2 (2.888 mi.)	140	238
PANTHER MINING CO. INC		NNW >2 (3.038 mi.)	160	270
VIVCO RESOURCES CO., INC.		SSE >2 (3.307 mi.)	175	295

FTTS: FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act) over the previous five years. To maintain currency, EDR contacts the Agency on a quarterly basis.

A review of the FTTS list, as provided by EDR, and dated 04/09/2009 has revealed that there are 4 FTTS sites within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CTA ACOUSTICS INC	ROBERT E COX ROAD P O	WSW 1 - 2 (1.592 mi.)	D14	38
AMERICAN GREETINGS CORP	259 AMERICAN GREETINGS	SW 1 - 2 (1.829 mi.)	I35	66
CORBIN CITY SCHOOL DISTRICT	108 E CENTER ST.	SSW >2 (3.404 mi.)	AM180	298
CORBIN CITY SCHOOL DISTRICT	108 E CENTER ST	SSW >2 (3.404 mi.)	AM182	299

HIST FTTS: A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

A review of the HIST FTTS list, as provided by EDR, and dated 10/19/2006 has revealed that there are 4 HIST FTTS sites within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CTA ACOUSTICS INC	ROBERT E COX ROAD P O	WSW 1 - 2 (1.592 mi.)	D14	38
AMERICAN GREETINGS CORP	259 AMERICAN GREETINGS	SW 1 - 2 (1.829 mi.)	I35	66
CORBIN CITY SCHOOL DISTRICT	108 E CENTER ST.	SSW >2 (3.404 mi.)	AM181	298
CORBIN CITY SCHOOL DISTRICT	108 E CENTER ST	SSW >2 (3.404 mi.)	AM182	299

EXECUTIVE SUMMARY

ICIS: The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

A review of the ICIS list, as provided by EDR, and dated 07/20/2011 has revealed that there is 1 ICIS site within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CORBIN ICE COMPANY	1311 CUMBERLAND FOLLE H	WSW >2 (2.451 mi.)	88	161

PADS: The PCB Activity Database identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify the United States Environmental Protection Agency of such activities. The source of this database is the U.S. EPA.

A review of the PADS list, as provided by EDR, and dated 11/01/2010 has revealed that there is 1 PADS site within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
AMERICAN GREETINGS CORPORATION	259 AMERICAN GREETING R	SW 1 - 2 (1.829 mi.)	I36	66

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 10/23/2011 has revealed that there are 39 FINDS sites within approximately 3.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ADMIRALTY BOATS INC	305 CAMPGROUND RD	SSW 1 - 2 (1.401 mi.)	B8	34
GAMBREL TOYOTA	1185 E. CUMBERLAND GAP	S >2 (2.659 mi.)	108	188
STEWART CHEVRON	34 ADAMS RD	WSW >2 (2.887 mi.)	AB138	233

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TRI-CO READY MIX	323 ECHO VALLEY RD	N 1 - 2 (1.563 mi.)	C11	36
CENTRAL KY MIXED CONCRETE INC	151 ECHO VALLEY RD	N 1 - 2 (1.610 mi.)	E16	39
DG TRUCKING	ROBINSON CREEK RD	NNW 1 - 2 (1.622 mi.)	F19	43
KENTUCKY CABINET CO	260 AMERICN GREETING DR	SW 1 - 2 (1.829 mi.)	I33	65
KENTUCKY CABINET CORPORATION	260 AMERICAN GREETINGS	SW 1 - 2 (1.829 mi.)	I34	65
AMERICAN GREETINGS CORPORATION	259 AMERICAN GREETING R	SW 1 - 2 (1.829 mi.)	I36	66
METAL PRODUCTS INC	319 N HILLS RD	SW 1 - 2 (1.847 mi.)	J38	82
PILOT TRAVEL CENTERS LLC #231	311 WEST CUMBERLAND GAP	SW 1 - 2 (1.995 mi.)	K47	110
ELMO GREER & SONS INC	CORBIN BYPASS	SW >2 (2.016 mi.)	50	112
CTA ACOUSTICS	ROBERT E. COX ROAD	WSW >2 (2.036 mi.)	51	113
R. U. LARSON PROPERTY	AMERICAN GREETING RD &	SW >2 (2.045 mi.)	52	121
KYDOH ITEM 11-126 P-97	US 25 WEST	SW >2 (2.060 mi.)	M58	127
CTA ACOUSTICS INC	296 ROBERT E COX RD	WSW >2 (2.067 mi.)	N61	131
CORNERSTONE CHRISTIAN SCHOOL	420 LILY SCHOOL RD	NNW >2 (2.122 mi.)	O66	133
LOWE'S OF CORBIN #494	777 WEST CUMBERLAND GAP	SW >2 (2.167 mi.)	P69	136

EXECUTIVE SUMMARY

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RUDD EQUIPMENT CO	HIGHWAY 25 EAST	WSW >2 (2.258 mi.)	71	136
KROGER CO - STORE 760	14889 NORTH US HWY 25E	SSW >2 (2.284 mi.)	Q77	150
KYDOH FE02-063-0075-030.56(B43)	I-75 OVER LAUREL RIVER	WNW >2 (2.405 mi.)	85	159
KMART #9513	997 CUMBERLAND GAP PARKS	S >2 (2.475 mi.)	S90	164
THE PRESS 'N SHOP INC	1220 MASTER ST	SSW >2 (2.634 mi.)	U99	172
CORBIN KOA CAMPGROUND	171 E CITY DAM RD	SW >2 (2.639 mi.)	V104	182
WAL-MART SUPERCENTER #1259	60 SOUTH STEWART RD	WSW >2 (2.642 mi.)	W107	188
60084 - MURPHY OIL USA INC 577	48 S STEWART RD	WSW >2 (2.664 mi.)	W110	207
MLF KNUCKLES MD PSC	1101 E MASTER ST	SSW >2 (2.750 mi.)	Y122	213
WASTE WATER TREATMENT	155 BOONE ST	SW >2 (2.852 mi.)	AA135	229
LAUREL CO WATER DIST #2	1878 ROBINSON CREEK RD	E >2 (2.896 mi.)	AC141	239
CORBIN PRESCHOOL CENTER	614 MASTER ST	SSW >2 (2.972 mi.)	AE152	257
WHITLEY DAY TREATMENT CTR ALTE	529 MASTER ST	SSW >2 (3.020 mi.)	AG157	266
529 MASTER ST CORBIN	529 MASTER ST	SSW >2 (3.020 mi.)	AG159	268
CORBIN, CITY OF EAST CORBIN FI	CORNER MASTERS ST. & CH	SSW >2 (3.124 mi.)	AI164	273
CHRISTIAN APPALACHIAN PROJECT	201 INDUSTRIAL BLVD.	S >2 (3.296 mi.)	AK171	285
ELICON CORBIN DIVISION	201 INDUSTRIAL BLVD	S >2 (3.296 mi.)	AK172	290
68998 - PARCEL 34	104 E CENTER ST	SSW >2 (3.402 mi.)	AM178	297
CORBIN CITY SCHOOL DISTRICT	108 E CENTER ST	SSW >2 (3.404 mi.)	AM182	299
CSX TRANSPORTATION CORBIN YARD	100 LYNN AVENUE	SSW >2 (3.485 mi.)	AP190	305
LAUREL RIDGE LANDFILL	HIGHWAY 552	NNW >2 (3.497 mi.)	194	316

RMP: When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

A review of the RMP list, as provided by EDR, and dated 05/08/2012 has revealed that there is 1 RMP site within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
WASTE WATER TREATMENT	BOONE AVE	SW >2 (2.901 mi.)	AD147	240

DRYCLEANERS: A listing of drycleaner facility locations.

A review of the DRYCLEANERS list, as provided by EDR, and dated 12/03/2012 has revealed that there are 2 DRYCLEANERS sites within approximately 3.75 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
THE PRESS 'N SHOP INC	1220 MASTER ST	SSW >2 (2.634 mi.)	U101	175
CORBIN 1 HOUR CLEANERS	315 S MAIN ST	SSW >2 (3.593 mi.)	AR199	331

EXECUTIVE SUMMARY

NPDES: A listing of permitted wastewater facilities.

A review of the NPDES list, as provided by EDR, and dated 12/10/2012 has revealed that there are 11 NPDES sites within approximately 3.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
LAUREL RIDGE LANDFILL INC	HWY 552 & HOPPER RD	NNW >2 (2.782 mi.)	127	221
LOVES COUNTRY STORES INC	222 KY 770	WSW >2 (2.994 mi.)	AF155	260
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HALL BROCK INVESTMENTS LLC	ROBERT E COX RD	WSW 1 - 2 (1.592 mi.)	D13	37
CENTRAL KY MIXED CONCRETE INC	151 ECHO VALLEY RD	N 1 - 2 (1.610 mi.)	E15	38
DG TRUCKING	ROBINSON CREEK RD	NNW 1 - 2 (1.622 mi.)	F18	42
PILOT TRAVEL CENTERS LLC #231	249 WEST CUMBERLAND GAP	SW 1 - 2 (1.992 mi.)	K43	92
CORNERSTONE CHRISTIAN SCHOOL	420 LILY SCHOOL RD	NNW >2 (2.122 mi.)	O65	132
CORBIN KOA CAMPGROUND	171 E CITY DAM RD	SW >2 (2.639 mi.)	V103	182
CORBIN WWTP	155 BOONE STREET	SW >2 (2.852 mi.)	AA134	227
LAUREL CO WATER DIST #2	1878 ROBINSON CREEK RD	E >2 (2.896 mi.)	AC144	239
WAITSBORO MANUFACTURING CO	201 INDUSTRIAL BLVD	S >2 (3.296 mi.)	AK170	285

AIRS: A listing of permitted Airs facilities.

A review of the AIRS list, as provided by EDR, and dated 12/03/2012 has revealed that there are 8 AIRS sites within approximately 3.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
ADMIRALTY BOATS INC	305 CAMPGROUND RD	SSW 1 - 2 (1.401 mi.)	B9	35
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TRI-CO READY MIX	323 ECHO VALLEY RD	N 1 - 2 (1.563 mi.)	C12	36
CENTRAL KY MIXED CONCRETE INC	151 ECHO VALLEY RD	N 1 - 2 (1.610 mi.)	E15	38
KENTUCKY CABINET CO	260 AMERICAN GREETINGS	SW 1 - 2 (1.829 mi.)	I32	64
METAL PRODUCTS INC	319 N HILLS RD	SW 1 - 2 (1.847 mi.)	J39	85
CTA ACOUSTICS INC	296 ROBERT E COX RD	WSW >2 (2.067 mi.)	N60	130
BLUEGRASS WIRELESS LLC - NORTH	939 S OLD WHITLEY RD	WNW >2 (2.273 mi.)	75	148
THE PRESS 'N SHOP INC	1220 MASTER ST	SSW >2 (2.634 mi.)	U101	175

LEAD: A listing of lead related inspections.

A review of the LEAD list, as provided by EDR, and dated 05/03/2012 has revealed that there are 2 LEAD sites within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	529 MASTER STREET	SSW >2 (3.020 mi.)	AG158	266
Not reported	4300 POPLAR GROVE ROAD	SSE >2 (3.409 mi.)	183	299

EXECUTIVE SUMMARY

Financial Assurance: A listing of financial assurance information.

A review of the Financial Assurance list, as provided by EDR, and dated 11/26/2012 has revealed that there are 13 Financial Assurance sites within approximately 3.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>CORBIN #106</i>	<i>8198 KY 1232</i>	<i>S >2 (2.635 mi.)</i>	<i>102</i>	<i>177</i>
<i>KRISNICK MARATHON</i>	<i>34 ADAMS RD</i>	<i>WSW >2 (2.887 mi.)</i>	<i>AB139</i>	<i>235</i>
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>PILOT TRAVEL CENTERS LLC #231</i>	<i>249 WEST CUMBERLAND GAP</i>	<i>SW 1 - 2 (1.992 mi.)</i>	<i>K43</i>	<i>92</i>
<i>TRADEMART CITGO</i>	<i>990 E CUMBERLAND GAP</i>	<i>S >2 (2.479 mi.)</i>	<i>S93</i>	<i>166</i>
<i>BELK SIMPSON CORBIN, INC.</i>	<i>1000 E. CUMBERLAND GAP</i>	<i>S >2 (2.489 mi.)</i>	<i>S94</i>	<i>169</i>
<i>LANHAM MARATHON</i>	<i>885 U.S. HIGHWAY 25 WES</i>	<i>SW >2 (2.622 mi.)</i>	<i>T96</i>	<i>170</i>
<i>MURPHY USA #5777</i>	<i>48 SOUTH STEWART ROAD</i>	<i>WSW >2 (2.664 mi.)</i>	<i>W111</i>	<i>207</i>
<i>HELTON OIL COMPANY</i>	<i>1100 MASTERS STREET</i>	<i>SSW >2 (2.749 mi.)</i>	<i>Y121</i>	<i>213</i>
<i>BETTYS FLOWERS</i>	<i>612 MASTERS ST</i>	<i>SSW >2 (2.974 mi.)</i>	<i>AE153</i>	<i>257</i>
<i>E-Z MART</i>	<i>501 MASTER ST</i>	<i>SSW >2 (3.097 mi.)</i>	<i>AH162</i>	<i>271</i>
<i>CHRISTIAN APPALACHIAN PROJECT</i>	<i>210 INDUSTRIAL BLVD</i>	<i>S >2 (3.298 mi.)</i>	<i>AK173</i>	<i>292</i>
<i>AMOCO CAR RENUVE</i>	<i>108 N LAUREL</i>	<i>SSW >2 (3.305 mi.)</i>	<i>AL174</i>	<i>293</i>
<i>DOWNTOWN UNOCAL</i>	<i>217 NORTH MAIN STREET</i>	<i>SSW >2 (3.476 mi.)</i>	<i>AO187</i>	<i>302</i>

US AIRS: The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

A review of the US AIRS list, as provided by EDR, and dated 11/15/2012 has revealed that there are 4 US AIRS sites within approximately 3.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>CENTRAL KY MIXED CONCRETE INC</i>	<i>151 ECHO VALLEY RD</i>	<i>N 1 - 2 (1.610 mi.)</i>	<i>E16</i>	<i>39</i>
<i>METAL PRODUCTS INC</i>	<i>319 N HILLS RD</i>	<i>SW 1 - 2 (1.847 mi.)</i>	<i>J38</i>	<i>82</i>
<i>THE PRESS 'N SHOP INC</i>	<i>1220 MASTER ST</i>	<i>SSW >2 (2.634 mi.)</i>	<i>U99</i>	<i>172</i>
<i>LAUREL RIDGE LANDFILL</i>	<i>HIGHWAY 552</i>	<i>NNW >2 (3.497 mi.)</i>	<i>194</i>	<i>316</i>

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR US Hist Auto Stat: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past

EXECUTIVE SUMMARY

sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there are 35 EDR US Hist Auto Stat sites within approximately 3.75 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	1375 LONDON HWY	WSW 1/2 - 1 (0.920 mi.)	A2	31
Not reported	41 GREENFIELD LN	W 1 - 2 (1.283 mi.)	5	32
Not reported	109 TAYLOR RD	WNW 1 - 2 (1.290 mi.)	6	33
Not reported	37 CAMPGROUND RD	SSW 1 - 2 (1.370 mi.)	7	33
Not reported	1681 ROBINSON CREEK RD	W 1 - 2 (1.760 mi.)	25	48
Not reported	757 SLATE RIDGE RD	NNE >2 (2.177 mi.)	70	136
Not reported	79 HIGHWAY 770	WSW >2 (2.885 mi.)	AB137	233
Not reported	34 ADAMS RD	WSW >2 (2.900 mi.)	146	240
Not reported	55 KING ST	SW >2 (3.697 mi.)	210	348

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	1286 LONDON HWY	SW 1 - 2 (1.070 mi.)	4	32
Not reported	209 ROBINSON CREEK RD	NNW 1 - 2 (1.704 mi.)	24	47
Not reported	6762 S US HIGHWAY 25	N 1 - 2 (1.809 mi.)	29	49
Not reported	279 W CUMBERLAND GAP PK	SW 1 - 2 (1.992 mi.)	K42	92
Not reported	249 W CUMBERLAND GAP PK	SW 1 - 2 (1.992 mi.)	K44	94
Not reported	26 PINEY HILL RD	WSW >2 (2.003 mi.)	48	111
Not reported	191 E CUMBERLAND GAP PK	SSW >2 (2.067 mi.)	63	132
Not reported	536 BRAMBLEWOOD DR	SE >2 (2.260 mi.)	72	146
Not reported	601 US HIGHWAY 25 W	SW >2 (2.376 mi.)	R83	158
Not reported	639 US HIGHWAY 25 W	SW >2 (2.411 mi.)	86	160
Not reported	990 E CUMBERLAND GAP PK	S >2 (2.479 mi.)	S92	166
Not reported	885 US HIGHWAY 25 W	SW >2 (2.622 mi.)	T97	170
Not reported	178 GLOUCESTER AVE	S >2 (2.704 mi.)	113	208
Not reported	93 FRED BARNETT RD	SW >2 (2.705 mi.)	115	208
Not reported	115 LONDON AVE	SSW >2 (2.745 mi.)	118	209
Not reported	1100 MASTER ST	SSW >2 (2.749 mi.)	Y119	209
Not reported	25 LONDON AVE	SSW >2 (2.791 mi.)	129	222
Not reported	400 N LAUREL AVE	SSW >2 (3.251 mi.)	AJ168	281
Not reported	100 N LAUREL AVE	SSW >2 (3.307 mi.)	AL176	296
Not reported	303 N MAIN ST	SSW >2 (3.436 mi.)	AN185	300
Not reported	201 S DEPOT ST	SSW >2 (3.523 mi.)	195	325
Not reported	104 E 2ND ST	SSW >2 (3.551 mi.)	196	325
Not reported	107 E 5TH ST	SSW >2 (3.655 mi.)	AS204	339
Not reported	501 S MAIN ST	SSW >2 (3.659 mi.)	AS205	339
Not reported	508 S MAIN ST	SSW >2 (3.661 mi.)	AS206	339
Not reported	608 S MAIN ST	SSW >2 (3.698 mi.)	211	348

EDR US Hist Cleaners: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Cleaners list, as provided by EDR, has revealed that there are 5 EDR US

EXECUTIVE SUMMARY

Hist Cleaners sites within approximately 3.75 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	538 LINE CREEK RD	NNW >2 (2.931 mi.)	149	256

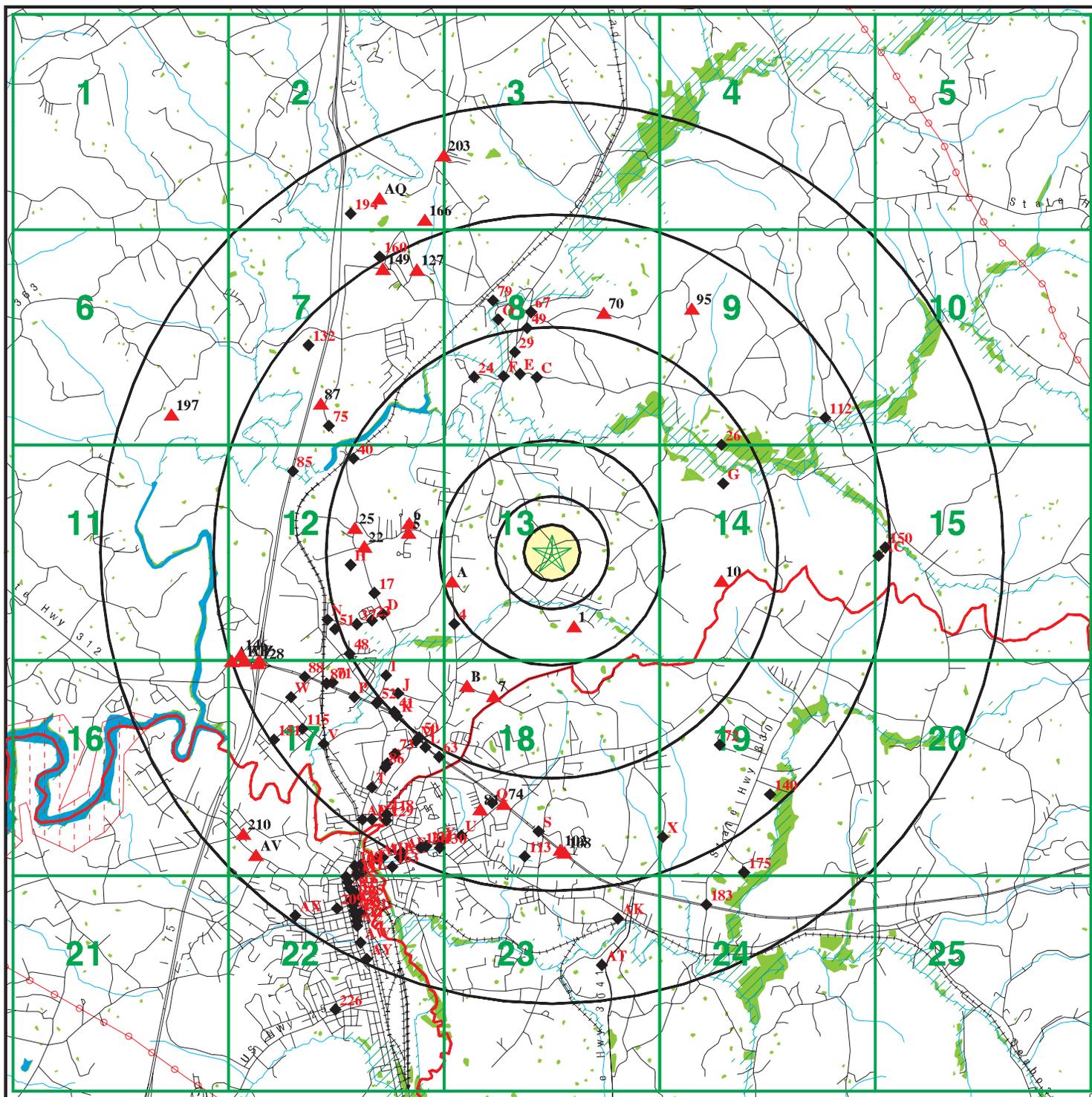
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	1220 MASTER ST	SSW >2 (2.634 mi.)	U100	175
Not reported	508 MASTER ST	SSW >2 (3.091 mi.)	AH161	270
Not reported	303 N MAIN ST	SSW >2 (3.436 mi.)	AN184	300
Not reported	315 S MAIN ST	SSW >2 (3.593 mi.)	AR200	332

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 37 records.

<u>Site Name</u>	<u>Database(s)</u>
2845 KY HWY 3436	CDL,HIST CDL
CUMBERLAND VALLEY ELECTRIC	FTTS,HIST FTTS
CUMBERLAND VALLEY ELECTRIC INC	FTTS,FINDS,HIST FTTS
CUMBERLAND VALLEY RECC	FTTS,HIST FTTS
CENTURY LUBRICATING OILS INC	HWS
CORBIN RAILWAY SERVICES	HWS
HELTON SANITATIONS INC	HWS
BALDROCK CONSERVATION CENTER	HWS
RAY'S SUPERIOR FOOD MARKET	CERCLIS,FINDS
SOMERSET OIL STATION	SB193
TRI-CO WOOD PRESERVING	RCRA-SQG,FINDS
G. H. MEDLIN CONSTRUCTION CO.	FINDS,RCRA-NLR
EATON & GIBBS MARKET	FINDS,RCRA-NLR
LEGERE'S STORE	FINDS,RCRA-NLR
SHADOW, INC.	FINDS,RCRA-NLR
CORBIN GRUNBERG STATION, LLC	RCRA-NLR
D & T OIL & RECYCLING SERVICE	RCRA-NLR
CHARLIE COOK FILLING STATION	FINDS,RCRA-NLR
M & M CABINET INC	RCRA-NLR
GRAY DRUMS	FINDS,RCRA-NLR
J & G MARKET	RCRA-NLR
HELTON SANITATIONS INC	FINDS,RCRA-NLR
CENTURY OILS INC.	FINDS,RCRA-NLR
REED'S TRANSMISSION SERVICE	FINDS,RCRA-CESQG
37 770 S HWY 411	CDL
TRI COUNTY SANITARY LANDFILL	NPDES
PROGRESS RAIL SRVCS GRAY RECL	NPDES
KEAVY ELEM SCHOOL	NPDES
APPALACHIAN MERCHANT MART	FINANCIAL ASSURANCE 1
CFM #415	FINANCIAL ASSURANCE 1
STEWARTS GARAGE	FINANCIAL ASSURANCE 1
CORBI N RRS	FINANCIAL ASSURANCE 1
BRANDIES MACHINERY & SUPPLY, INC.	FINANCIAL ASSURANCE 1
THE FILLIN' STATION, INC.	FINANCIAL ASSURANCE 1
FORMER L & M QUICK STOP	FINANCIAL ASSURANCE 1
BARGO SUPPLY	FINANCIAL ASSURANCE 1
CARDINAL COUNTRY STORE #5	FINANCIAL ASSURANCE 1

OVERVIEW MAP - 3559661.1s



★ Target Property

▲ Sites at elevations higher than or equal to the target property

◆ Sites at elevations lower than the target property

▲ Manufactured Gas Plants

■ National Priority List Sites

■ Dept. Defense Sites

■ Indian Reservations BIA

— County Boundary

— Power transmission lines

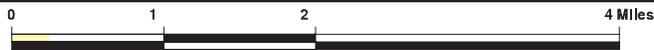
— Oil & Gas pipelines from USGS

■ 100-year flood zone

■ 500-year flood zone

■ National Wetland Inventory

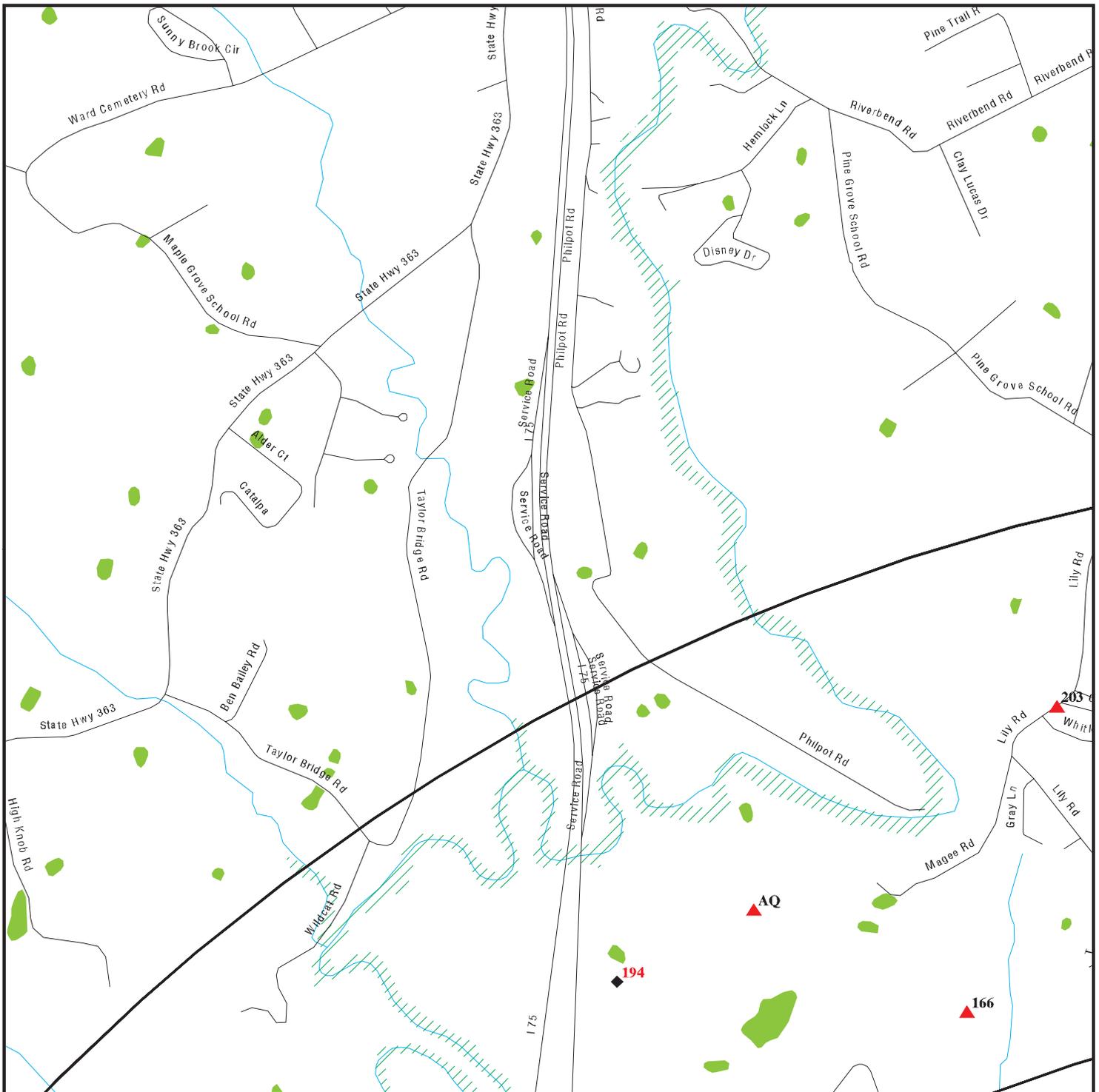
■ State Wetlands



SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:48 pm

DETAIL MAP 2 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands



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 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:50 pm

DETAIL MAP 3 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- 🏭 Manufactured Gas Plants
- 🏠 Sensitive Receptors
- 🚚 National Priority List Sites
- 🏢 Dept. Defense Sites

- 🏠 Indian Reservations BIA
- 🛢️ Oil & Gas pipelines from USGS
- 🌊 100-year flood zone
- 🌊 500-year flood zone
- 🌿 National Wetland Inventory
- 🌿 State Wetlands

SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:50 pm

DETAIL MAP 7 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- ⚡ Sensitive Receptors
- ☒ National Priority List Sites
- ☒ Dept. Defense Sites

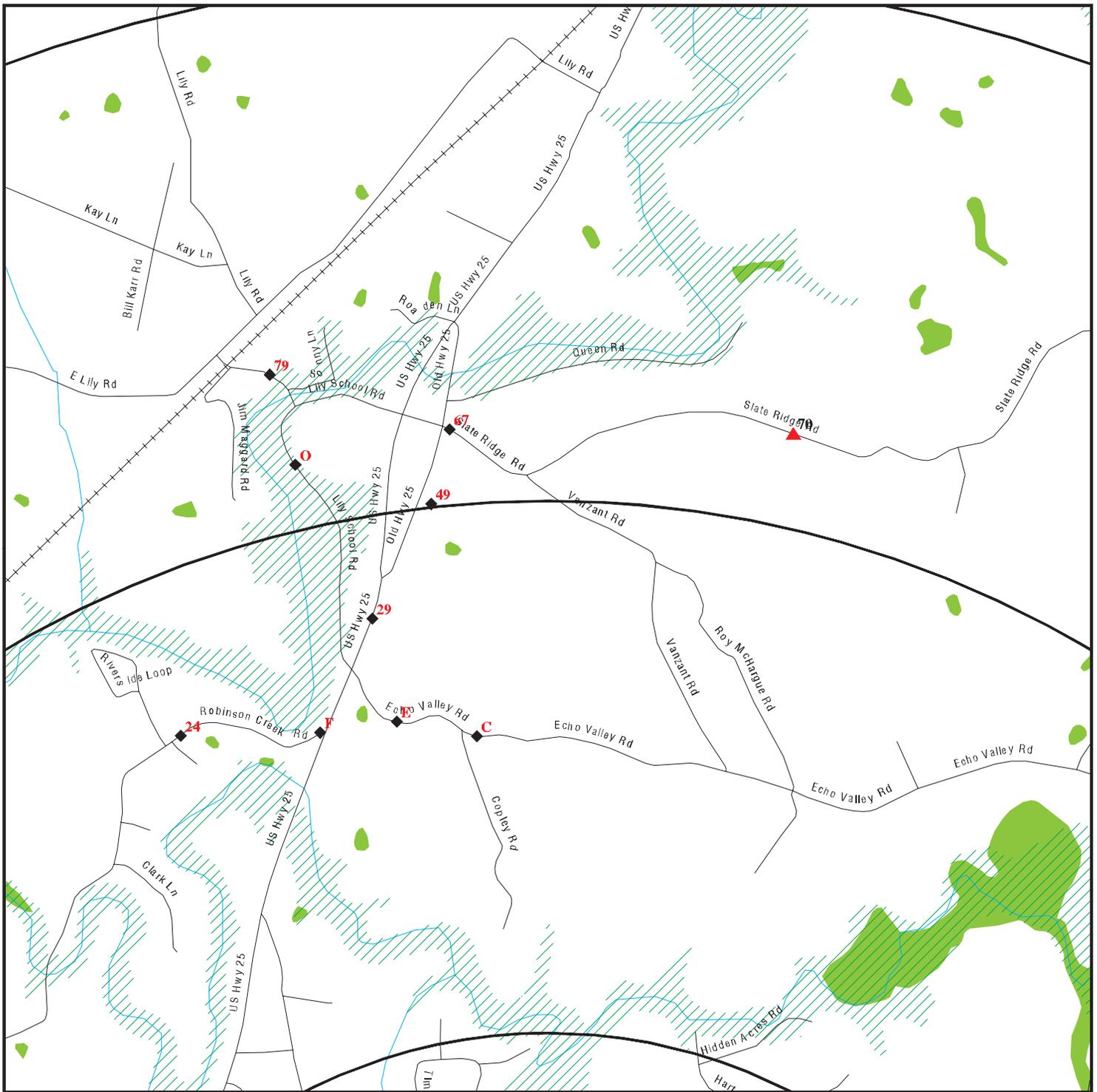
- ☒ Indian Reservations BIA
- ⚡ Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- State Wetlands



SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:53 pm

DETAIL MAP 8 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands



SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:54 pm

DETAIL MAP 9 of 25 - 3559661.1s



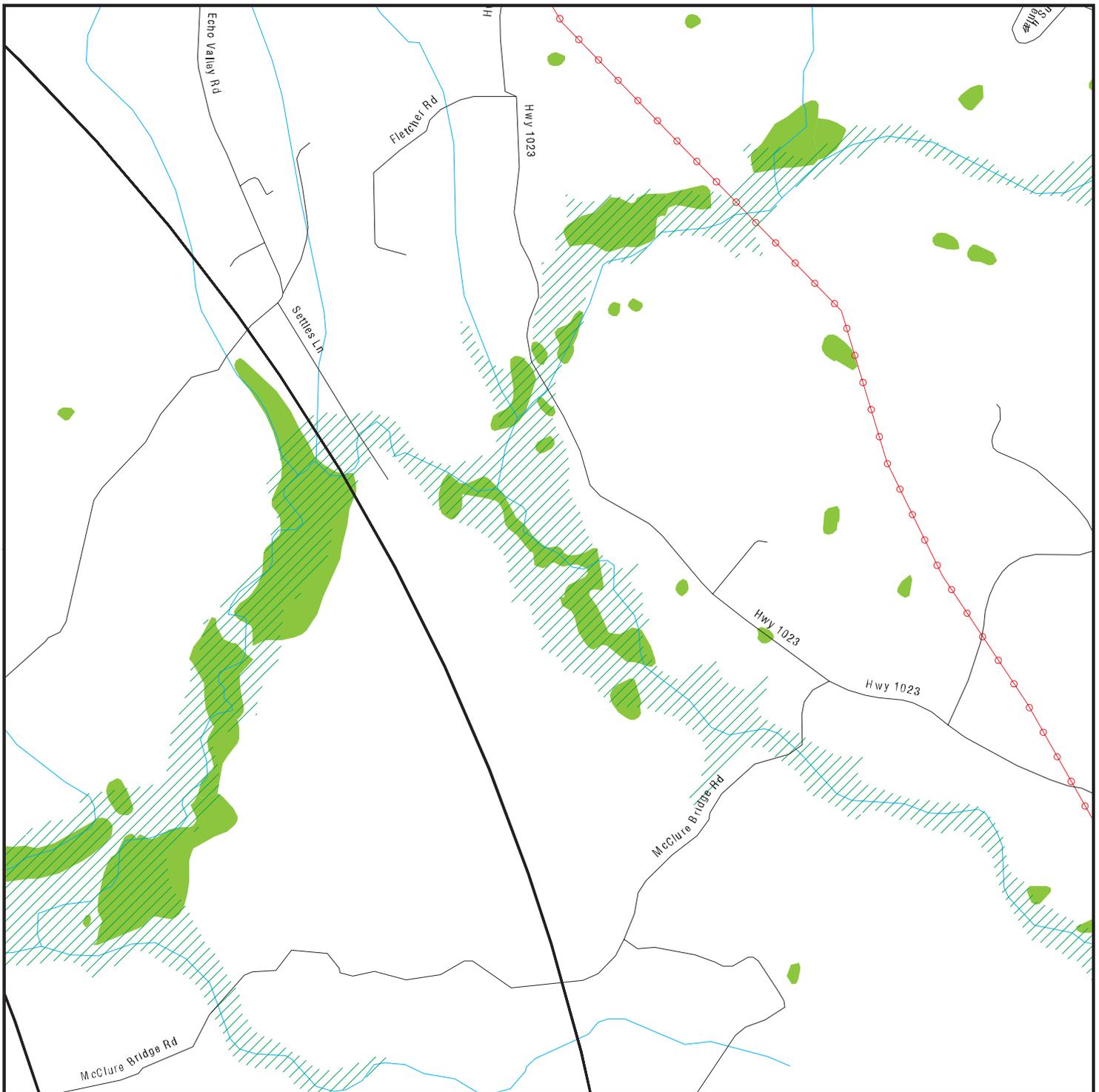
- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:55 pm

DETAIL MAP 10 of 25 - 3559661.1s



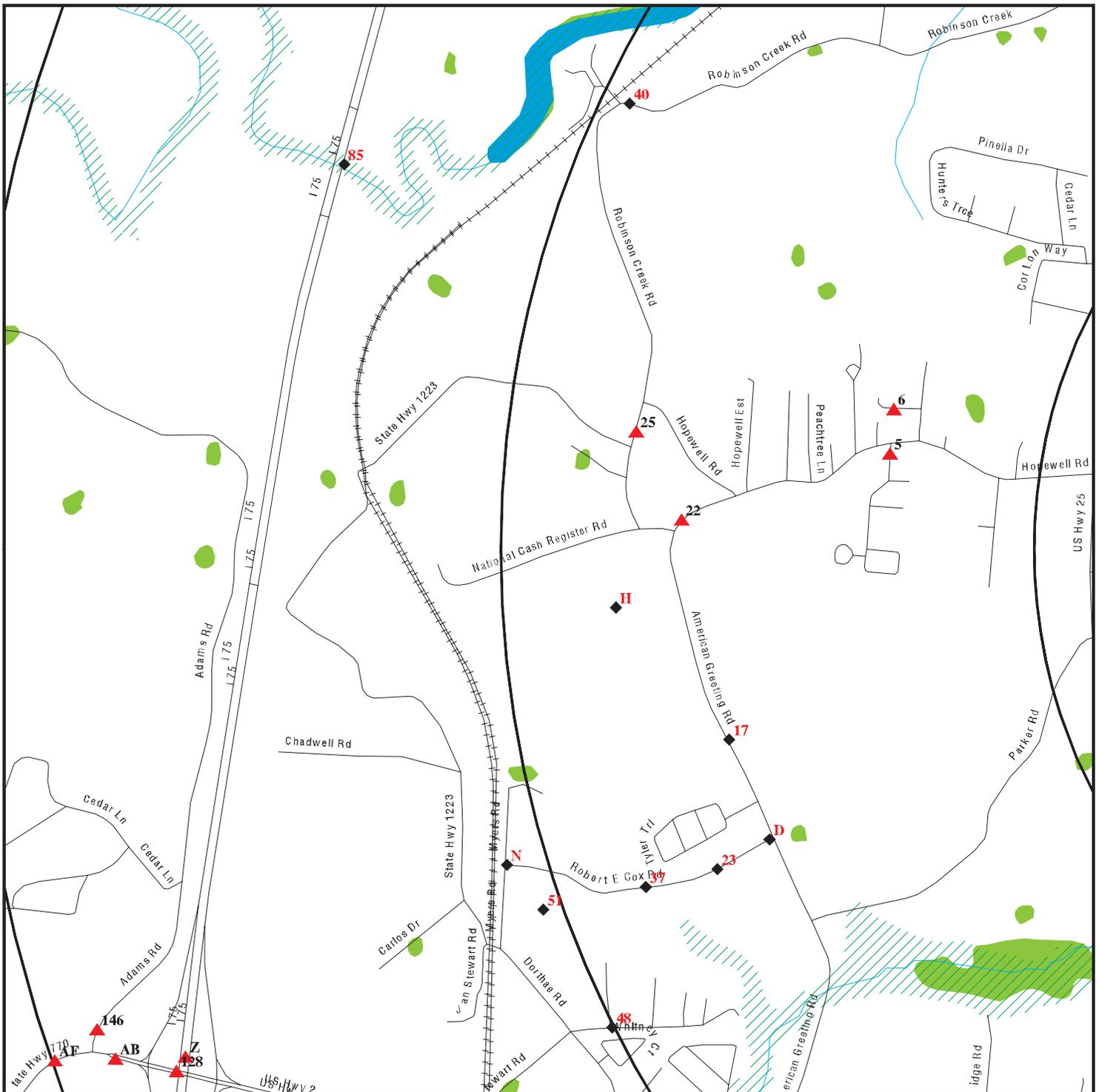
- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- ⚡ Sensitive Receptors
- ☒ National Priority List Sites
- ☒ Dept. Defense Sites

- ☒ Indian Reservations BIA
- ⚡ Power transmission lines
- ⚡ Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- State Wetlands

SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:55 pm

DETAIL MAP 12 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

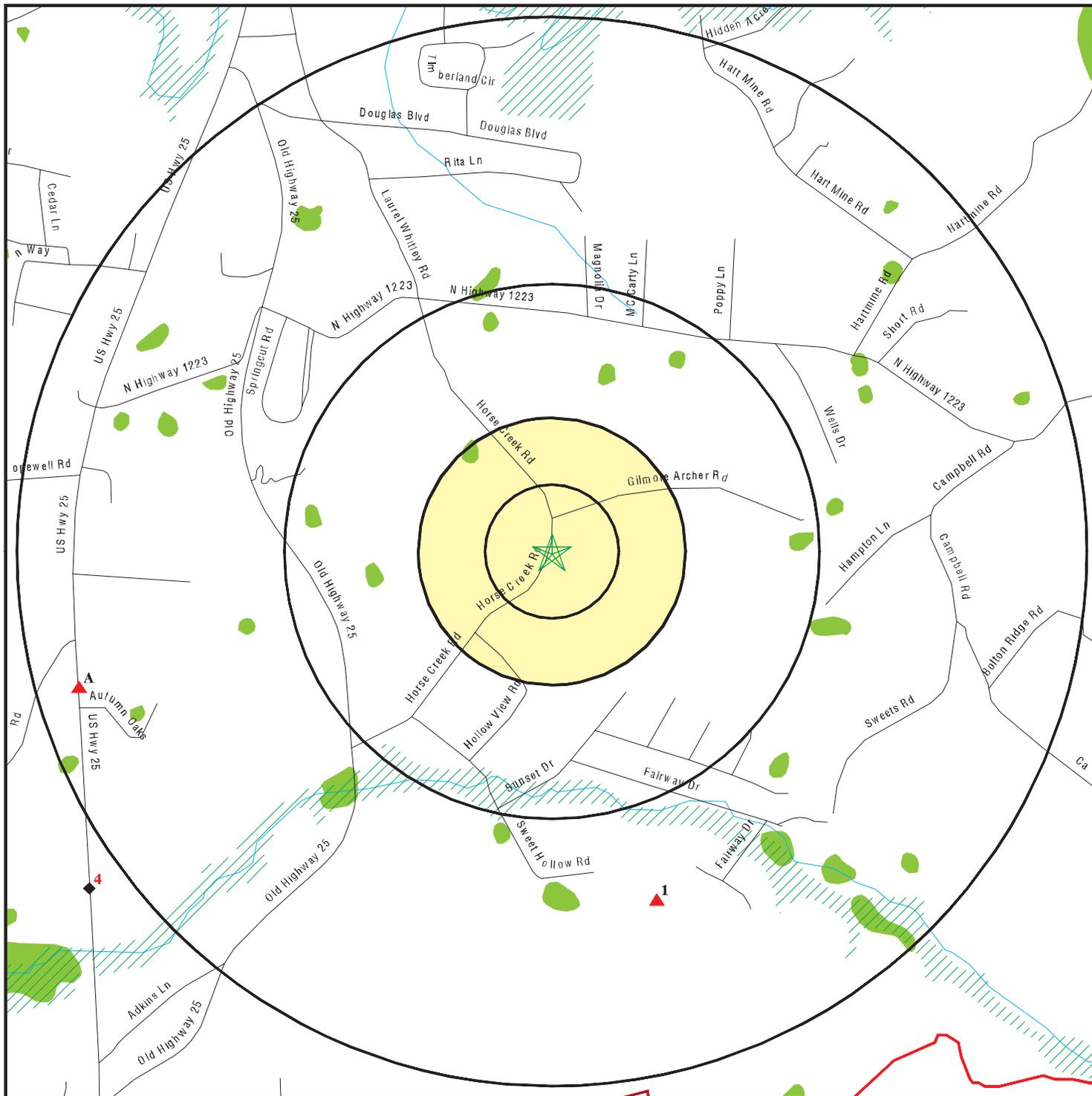
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands



SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:57 pm

DETAIL MAP 13 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- 0 1/4 1/2 1 Miles
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:58 pm

DETAIL MAP 14 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- ⚡ Sensitive Receptors
- ☒ National Priority List Sites
- ☒ Dept. Defense Sites

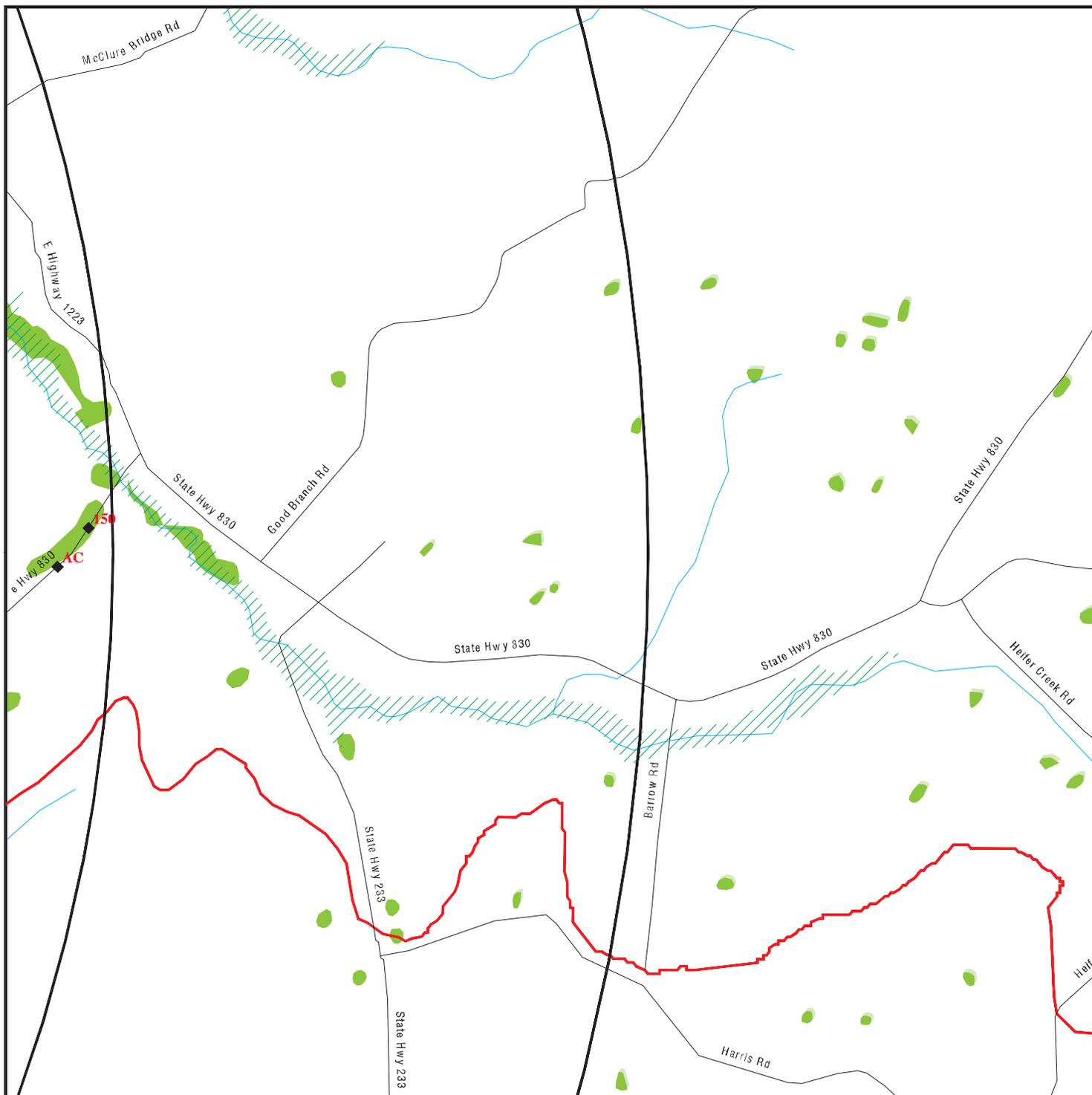
- ▨ Indian Reservations BIA
- ⚡ County Boundary
- ⚡ Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- State Wetlands



SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:58 pm

DETAIL MAP 15 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

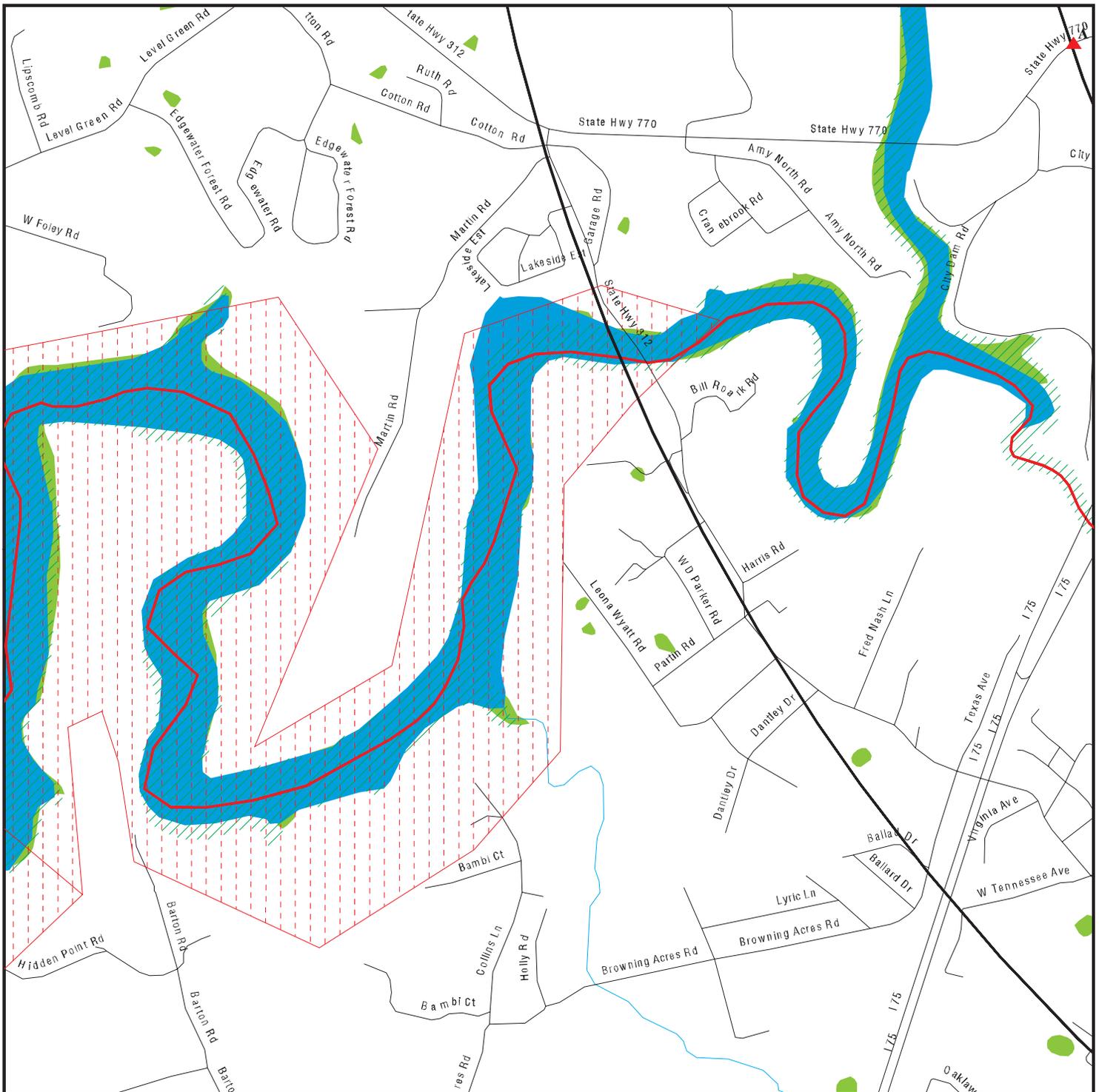
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- State Wetlands



SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 6:59 pm

DETAIL MAP 16 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- ▨ National Priority List Sites
- ▨ Dept. Defense Sites



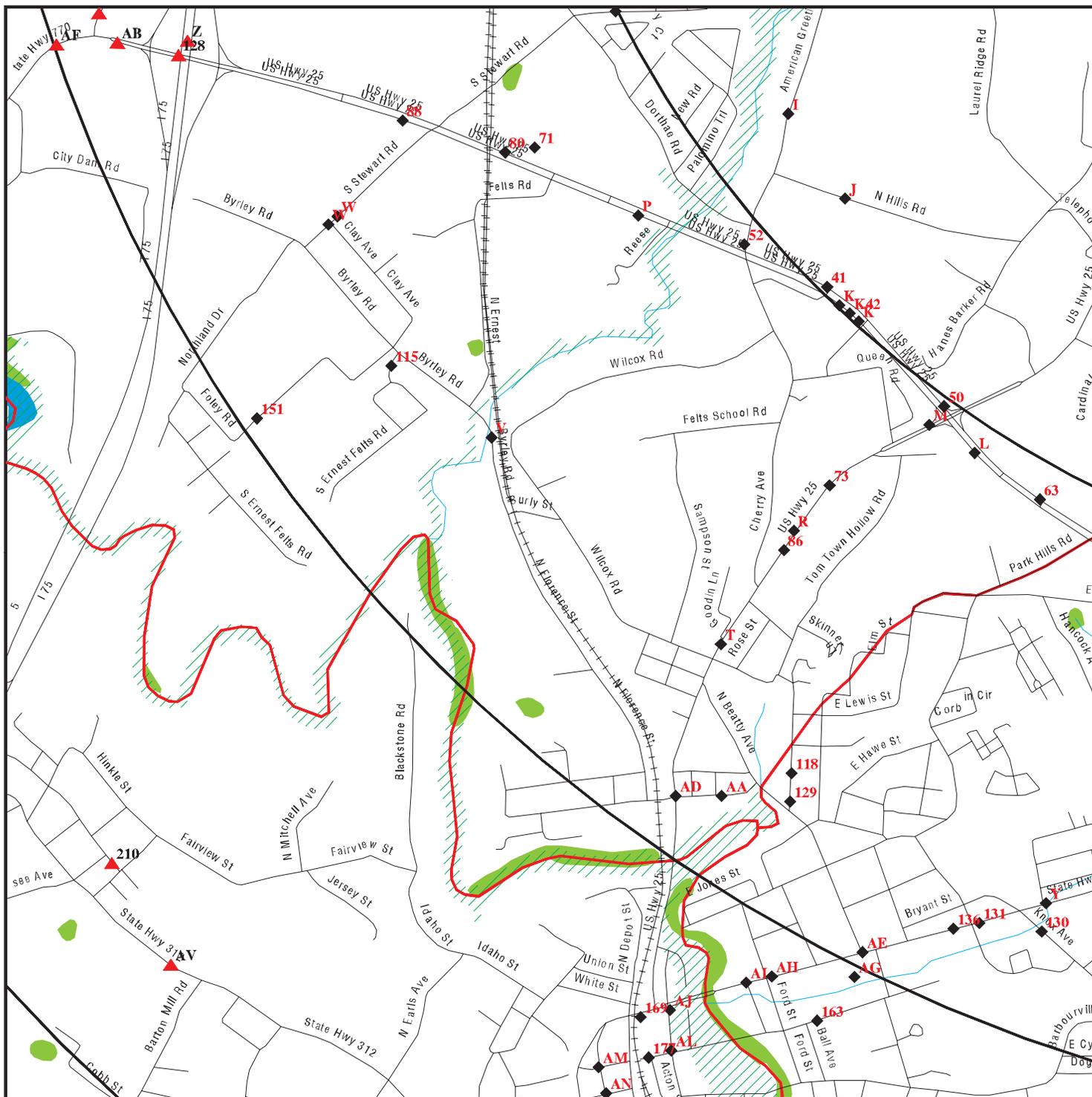
- ▨ Indian Reservations BIA
- ▨ County Boundary
- ▨ Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- State Wetlands



SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 7:00 pm

DETAIL MAP 17 of 25 - 3559661.1s



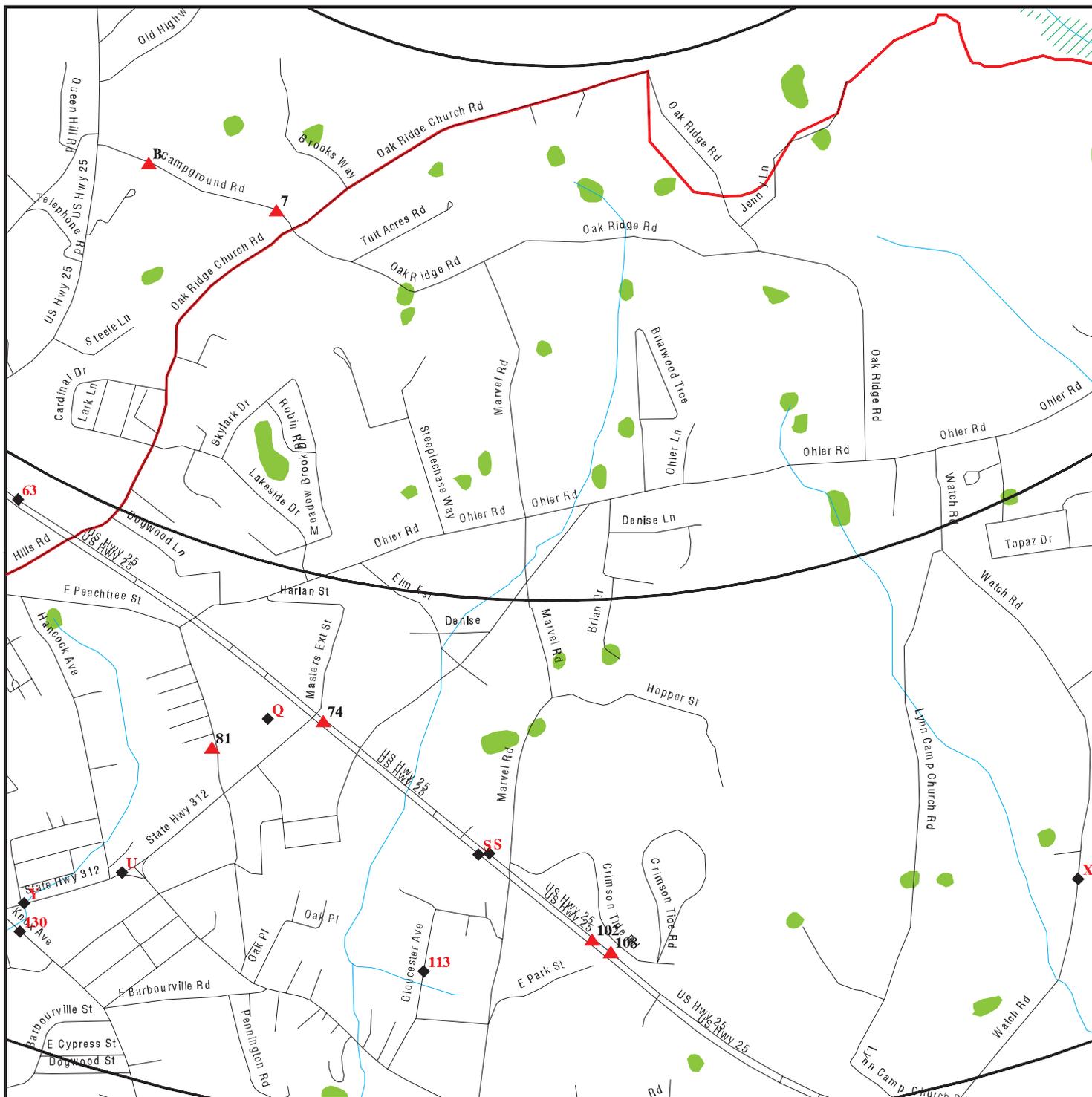
- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- 0 1/4 1/2 1 Miles
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 7:01 pm

DETAIL MAP 18 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

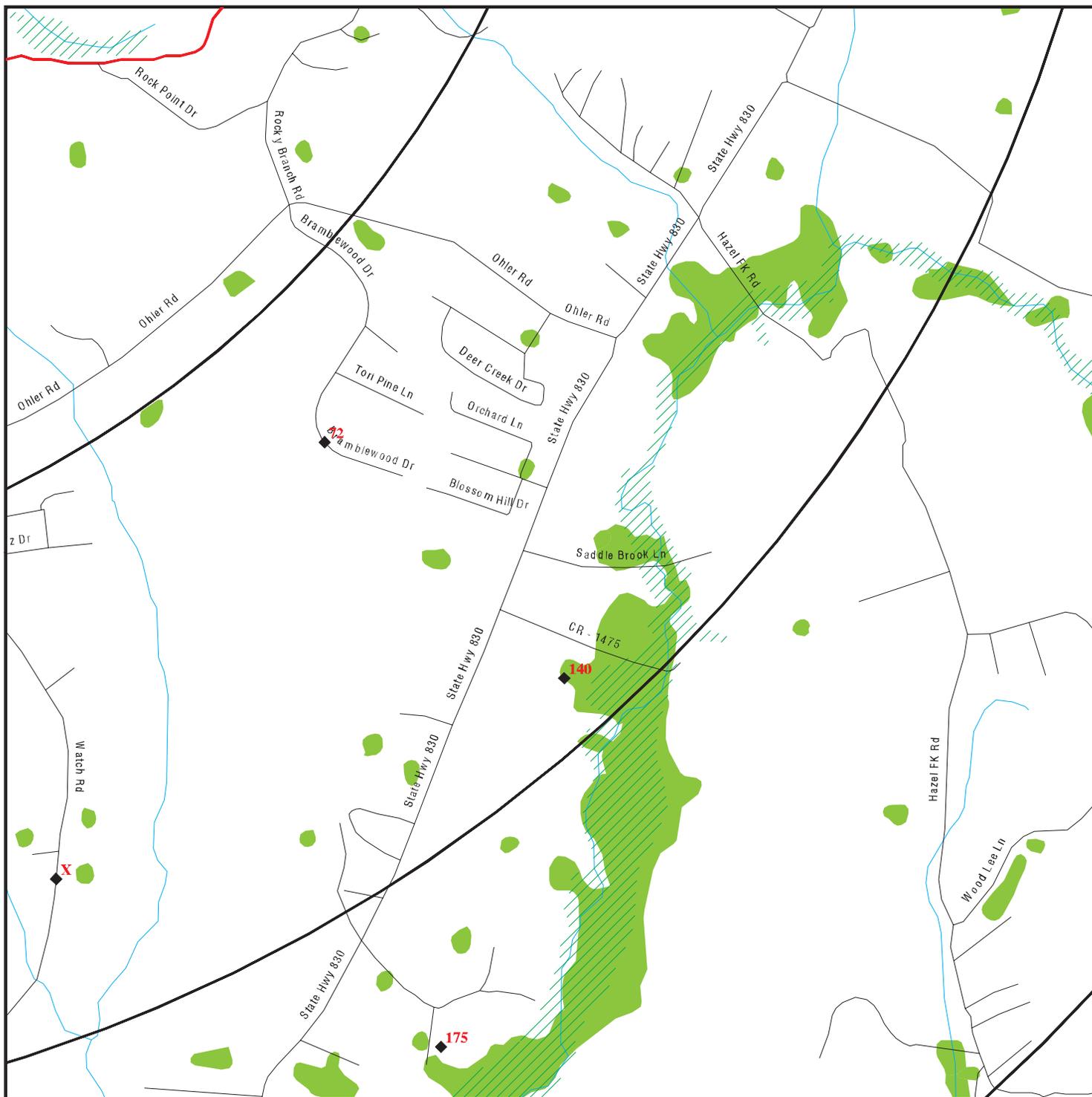
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- State Wetlands



SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 7:01 pm

DETAIL MAP 19 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

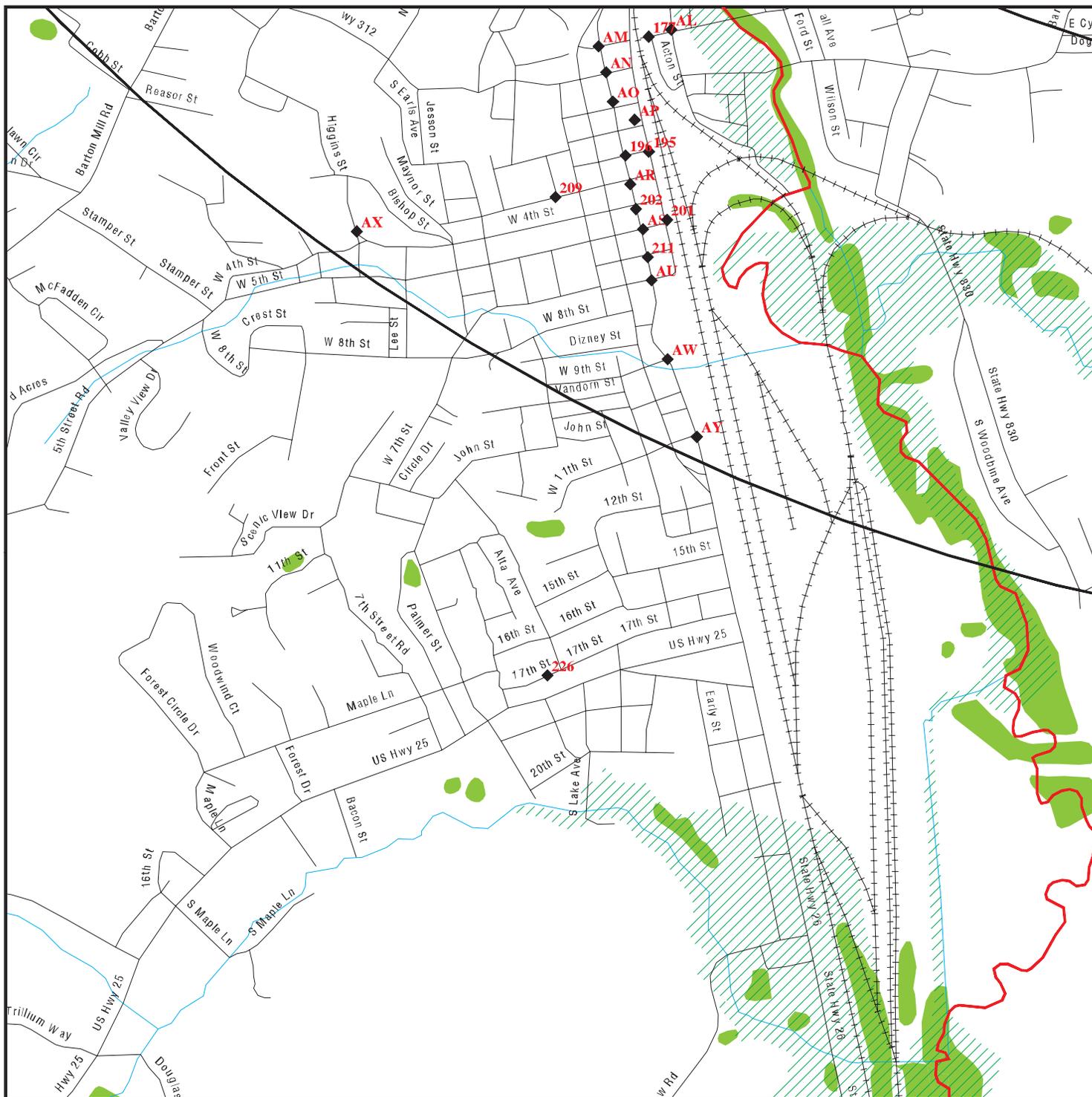
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- State Wetlands



SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 7:02 pm

DETAIL MAP 22 of 25 - 3559661.1s



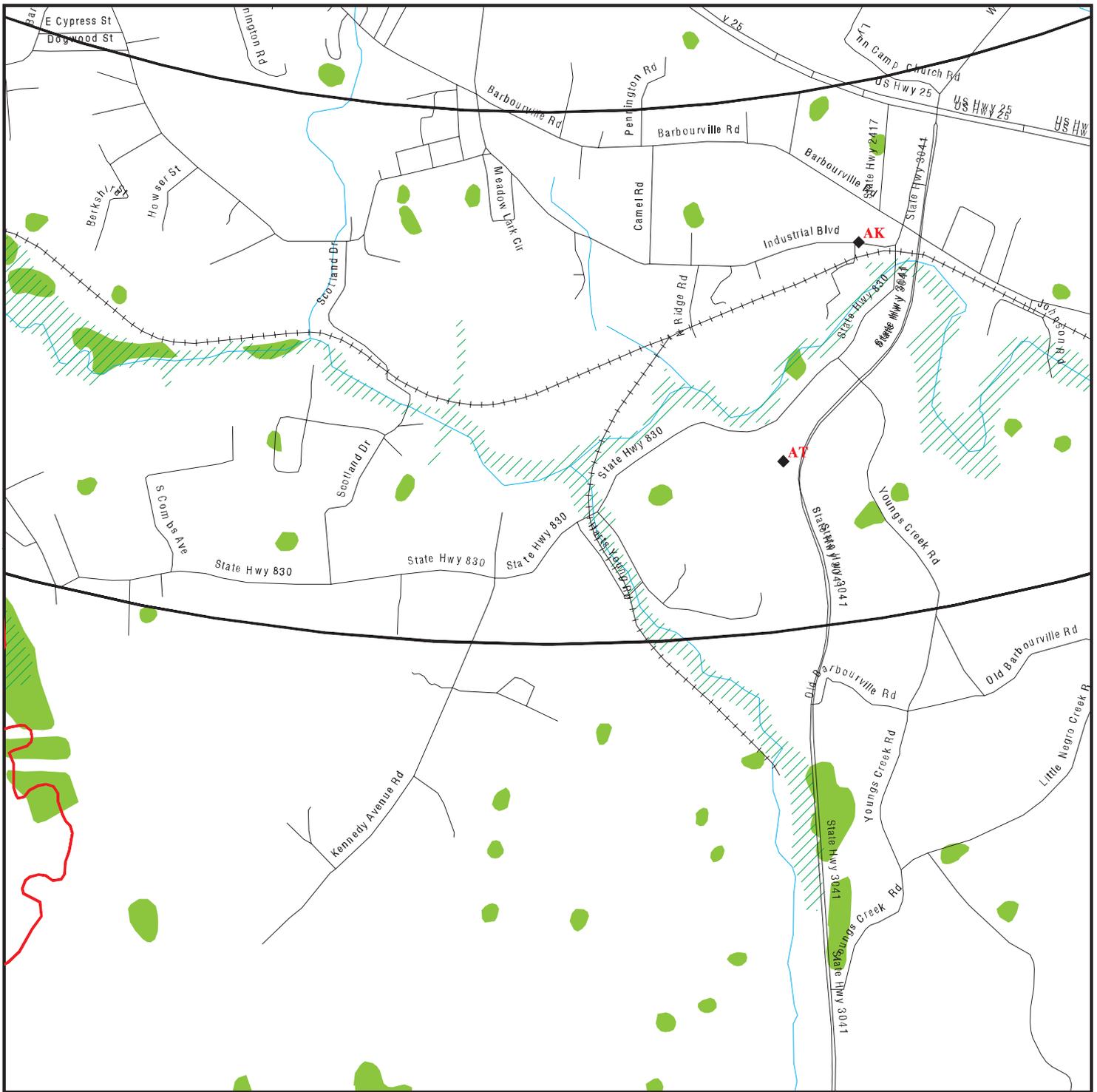
- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- 0 1/4 1/2 1 Miles
- Indian Reservations BIA
- ▲ County Boundary
- ▲ Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 7:05 pm

DETAIL MAP 23 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- ▨ National Priority List Sites
- ▨ Dept. Defense Sites

- ▨ Indian Reservations BIA
- ▬ County Boundary
- ▬ Oil & Gas pipelines from USGS
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory
- State Wetlands

SITE NAME: KY 3041 Extension
 ADDRESS: Knox-Laurel County
 Corbin KY 40701
 LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
 CONTACT: Bill Leopold
 INQUIRY #: 3559661.1s
 DATE: March 27, 2013 7:06 pm

DETAIL MAP 24 of 25 - 3559661.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ⚙ Manufactured Gas Plants
- ⚠ Sensitive Receptors
- 🏠 National Priority List Sites
- 🏠 Dept. Defense Sites
- 🏠 Indian Reservations BIA
- 🛢 Oil & Gas pipelines from USGS
- 🌊 100-year flood zone
- 🌊 500-year flood zone
- 🌿 National Wetland Inventory
- 🌿 State Wetlands

SITE NAME: KY 3041 Extension
ADDRESS: Knox-Laurel County
 Corbin KY 40701
LAT/LONG: 36.9911 / 84.0641

CLIENT: Stantec
CONTACT: Bill Leopold
INQUIRY #: 3559661.1s
DATE: March 27, 2013 7:06 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	4.500		0	0	0	0	0	0
Proposed NPL	4.500		0	0	0	0	0	0
NPL LIENS	3.500		0	0	0	0	0	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	4.500		0	0	0	0	0	0
<i>Federal CERCLIS list</i>								
CERCLIS	4.000		0	0	0	0	2	2
FEDERAL FACILITY	4.000		0	0	0	0	0	0
<i>Federal CERCLIS NFRAP site List</i>								
CERC-NFRAP	4.000		0	0	0	0	0	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	4.500		0	0	0	0	0	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	4.000		0	0	0	0	1	1
<i>Federal RCRA generators list</i>								
RCRA-LQG	3.750		0	0	0	0	0	0
RCRA-SQG	3.750		0	0	0	0	1	1
RCRA-CESQG	3.750		0	0	0	0	9	9
<i>Federal institutional controls / engineering controls registries</i>								
US ENG CONTROLS	3.500		0	0	0	0	0	0
US INST CONTROL	4.000		0	0	0	0	0	0
LUCIS	4.000		0	0	0	0	0	0
<i>Federal ERNS list</i>								
ERNS	3.500		0	0	0	1	10	11
<i>State- and tribal - equivalent CERCLIS</i>								
SHWS	4.500		0	0	0	0	13	13
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	4.000		0	0	0	0	5	5
<i>State and tribal leaking storage tank lists</i>								
SB193	4.000		0	0	0	0	9	9
PSTEAF	4.000		0	0	0	0	3	3
INDIAN LUST	4.000		0	0	0	0	0	0
<i>State and tribal registered storage tank lists</i>								
UST	3.750		0	0	0	0	43	43

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN UST	3.750		0	0	0	0	0	0
FEMA UST	3.750		0	0	0	0	0	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	4.000		0	0	0	0	0	0
INST CONTROL	4.000		0	0	0	0	0	0
State and tribal voluntary cleanup sites								
VCP	4.000		0	0	0	0	0	0
INDIAN VCP	4.000		0	0	0	0	0	0
State and tribal Brownfields sites								
BROWNFIELDS	4.000		0	0	0	0	1	1
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
Local Brownfield lists								
US BROWNFIELDS	4.000		0	0	0	0	1	1
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	4.000		0	0	0	0	0	0
ODI	4.000		0	0	0	0	0	0
HIST LF	4.000		0	0	0	0	2	2
SWRCY	4.000		0	0	0	0	3	3
INDIAN ODI	4.000		0	0	0	0	0	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	3.500		0	0	0	0	3	3
CDL	3.500		0	0	0	0	5	5
US HIST CDL	3.500		0	0	0	0	2	2
Local Land Records								
LIENS 2	3.500		0	0	0	0	0	0
Records of Emergency Release Reports								
HMIRS	3.500		0	0	0	0	0	0
SPILLS	3.500		0	0	0	0	0	0
Other Ascertainable Records								
RCRA NonGen / NLR	3.750		0	0	0	0	19	19
DOT OPS	3.500		0	0	0	0	0	0
DOD	4.500		0	0	0	0	1	1
FUDS	4.500		0	0	0	0	0	0
CONSENT	4.500		0	0	0	0	0	0
ROD	4.500		0	0	0	0	0	0
UMTRA	4.000		0	0	0	0	0	0
US MINES	3.750		0	0	0	1	16	17

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
TRIS	3.500		0	0	0	0	0	0
TSCA	3.500		0	0	0	0	0	0
FTTS	3.500		0	0	0	0	4	4
HIST FTTS	3.500		0	0	0	0	4	4
SSTS	3.500		0	0	0	0	0	0
ICIS	3.500		0	0	0	0	1	1
PADS	3.500		0	0	0	0	1	1
MLTS	3.500		0	0	0	0	0	0
RADINFO	3.500		0	0	0	0	0	0
FINDS	3.500		0	0	0	0	39	39
RAATS	3.500		0	0	0	0	0	0
RMP	3.500		0	0	0	0	1	1
DRYCLEANERS	3.750		0	0	0	0	2	2
NPDES	3.500		0	0	0	0	11	11
AIRS	3.500		0	0	0	0	8	8
LEAD	3.500		0	0	0	0	2	2
INDIAN RESERV	4.500		0	0	0	0	0	0
SCRD DRYCLEANERS	4.000		0	0	0	0	0	0
Financial Assurance	3.500		0	0	0	0	13	13
COAL ASH	4.000		0	0	0	0	0	0
COAL ASH EPA	4.000		0	0	0	0	0	0
COAL ASH DOE	3.500		0	0	0	0	0	0
PCB TRANSFORMER	3.500		0	0	0	0	0	0
US FIN ASSUR	3.500		0	0	0	0	0	0
2020 COR ACTION	3.750		0	0	0	0	0	0
US AIRS	3.500		0	0	0	0	4	4
PRP	3.500		0	0	0	0	0	0
EPA WATCH LIST	3.500		0	0	0	0	0	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	4.500		0	0	0	0	0	0
EDR US Hist Auto Stat	3.750		0	0	0	1	34	35
EDR US Hist Cleaners	3.750		0	0	0	0	5	5

NOTES:

TP = Target Property

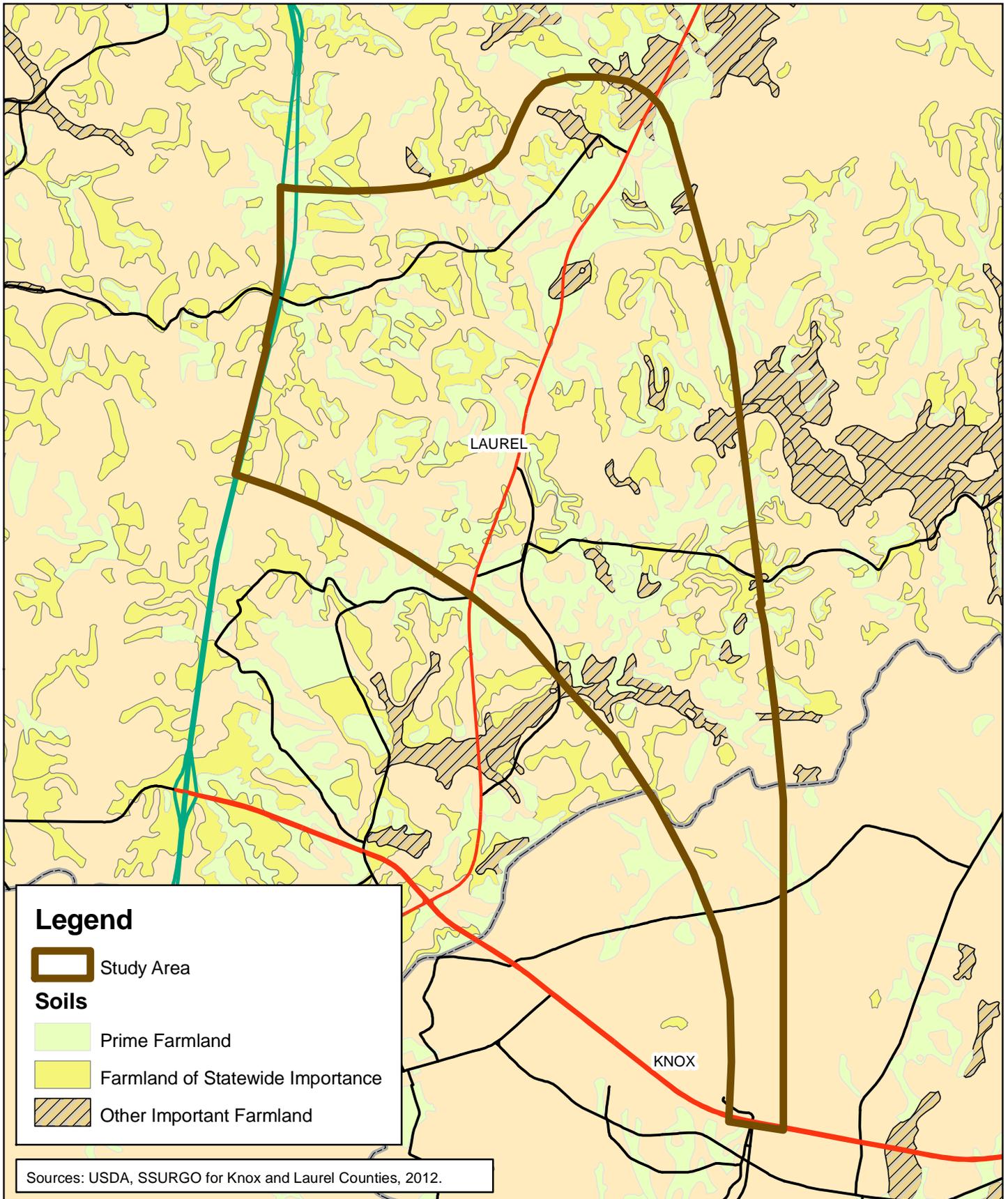
NR = Not Requested at this Search Distance

Sites may be listed in more than one database

ENVIRONMENTAL OVERVIEW

Corbin Bypass (KY 3041) Extension

SITE_SEQ_I	MASTER_AI_	MASTER_AI1	ADDRESS_1	MAILING_AD	MAILING__1	MAIL_ADD_Z
3280063	2592	Salem Tool Inc	PO Box 1600	London	KY	40743
6109063	60074	Lily Shop N Cart	4020 E Hwy 552	Lily	KY	40740
6109063	60074	Lily Shop N Cart	4020 E Hwy 552	Lily	KY	40740
6109063	60074	Lily Shop N Cart	4020 E Hwy 552	Lily	KY	40740
1002063	60081	Mcclures Auto Center	7435 S US 25	Corbin (Whitley)	KY	40701
1002063	60081	Mcclures Auto Center	7435 S US 25	Corbin (Whitley)	KY	40701
1002063	60081	Mcclures Auto Center	7435 S US 25	Corbin (Whitley)	KY	40701
1002063	60081	Mcclures Auto Center	7435 S US 25	Corbin (Whitley)	KY	40701
1002063	60081	Mcclures Auto Center	7435 S US 25	Corbin (Whitley)	KY	40701
5445063	60109	Houses Midway Market	6343 S Us Hwy 25	Corbin (Whitley)	KY	407014950
5445063	60109	Houses Midway Market	6343 S Us Hwy 25	Corbin (Whitley)	KY	407014950
5445063	60109	Houses Midway Market	6343 S Us Hwy 25	Corbin (Whitley)	KY	407014950
5445063	60109	Houses Midway Market	6343 S Us Hwy 25	Corbin (Whitley)	KY	407014950
5445063	60109	Houses Midway Market	6343 S Us Hwy 25	Corbin (Whitley)	KY	407014950
unknown	unknown	Macs Filling Station	US 25	Lily	KY	



Legend

-  Study Area
- Soils**
-  Prime Farmland
-  Farmland of Statewide Importance
-  Other Important Farmland

Sources: USDA, SSURGO for Knox and Laurel Counties, 2012.


 0 0.25 0.5 1
 Miles
 April 2013



Corbin Bypass (KY 3041) Extension
 KYTC Item #11-190.00
 Knox and Laurel Counties

Attachment B22
Prime and Other Important Farmland Soils

ATTACHMENT C

Cultural Resources Records Review

***A Records Review for the Proposed Corbin Bypass In Knox and Laurel Counties,
Kentucky (Item No. 11-190.00)***

**A RECORDS REVIEW
FOR THE PROPOSED CORBIN BYPASS IN KNOX AND LAUREL COUNTIES,
KENTUCKY (ITEM NO. 11-190.00)**

Prepared by:

Gavin R. Davies
Cultural Resource Analysts, Inc.
151 Walton Avenue
Lexington, KY 40508
CRA Project No.: K13S007

April 15, 2013

Project Description

In April 2013, Cultural Resource Analysts, Inc. (CRA), conducted a records review for the proposed Corbin Bypass in Knox and Laurel Counties, Kentucky (Item No. 11-190.00). The review was conducted at the request of Jesse Binau of Stantec Consulting Services, Inc., on behalf of the Kentucky Transportation Cabinet (KYTC). The proposed development will extend the existing Corbin Bypass (KY 3041) from its current terminus at U.S. 25E in Knox County to I-75 in Laurel County. The study area, which encompasses alternative routes, measures approximately 9.6 km (6.0 mi) in length and totals approximately 2,359.72 ha (5,831.00 acres). The study area is located primarily in dissected uplands but also includes floodplains and terraces associated with Laurel River.

Guidelines

This records review was conducted in accordance with *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*. In addition, guidelines offered in the following documents were followed: *Guidelines for Local Surveys: A Basis for Preservation Planning*; *National Register Bulletin #24*; *Kentucky Historic Resources Survey Manual*; and *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports*.

Records Review

A search of records maintained by the National Register of Historic Places (NRHP) (available online at: <http://nrhp.focus.nps.gov/natreghome.do?searchtype=natreghome>), the Office of State Archaeology (OSA), and the Kentucky Heritage Council (KHC) was conducted to: 1) determine if the study area had been previously surveyed for archaeological or cultural historic resources; 2) identify any previously recorded archaeological or cultural historic sites that were situated within the study area; 3) provide information concerning what archaeological and cultural historic resources could be expected within the study area; and 4) provide a context for any archaeological or cultural historic resources recovered within the study area. The NRHP records indicated that no archaeological or cultural historic sites listed on the NRHP were situated within the study area.

Archaeological Results

OSA geographic information system (GIS) data requested by CRA on April 3, 2013, was returned on April 8, 2013, and was researched by Heather Barras. The work at OSA consisted of a review of professional survey reports and records of archaeological sites for the study area. The review of professional survey reports and archaeological site data provided basic information on the types of

archaeological resources that are likely to occur within the study area. The study area included in the records review is depicted on the Corbin and Lily, Kentucky, topographic quadrangles (United States Geological Survey [USGS] 1970a and 1970b). OSA records revealed that seven previous professional archaeological surveys have been conducted within the study area and that one archaeological site (Site 15L130) has been identified in this area also. The surveys and site are depicted on the map in Figure 1 and are discussed below.

On June 4, 1984, CRA personnel conducted an archaeological survey of a proposed linear waterline extending from an existing raw water intake facility near Indian Camp Creek on Lake Cumberland in Laurel County to an existing water treatment facility in Barbourville, Knox County, and a proposed water tank location in Knox County, Kentucky (Niquette 1984). The linear waterline, measuring approximately 43 km (27 mi) in length, and the previously undisturbed water tank location, measuring approximately 30 x 30 m (98 x 98 ft) in size, were investigated with pedestrian survey and shovel testing. No archaeological sites were identified within the study area, and no further work was recommended.

In August 1989, Charles R. Cobb, Guy G. Weaver, and Charles H. McNutt of Garrow & Associates, Inc., conducted a cultural resource survey of a 95 km (59 mi) long corridor of unknown width at the request of American Telephone and Telegraph Communications, Inc. (Cobb et al. 1989). The survey was conducted for a proposed free-to-air lightguide cable line. The study area was investigated by pedestrian survey supplemented by shovel testing. Eighteen sites were recorded as a result of the survey. None of the sites were located within the study area.

On February 3, 1992, CRA personnel completed an archaeological survey of a proposed landfill in Laurel County, Kentucky. The survey was conducted at the request of Nesbitt Engineering, Inc., on behalf of E.R. Hopper and Son, Inc. (Landfill Application Number 90-439). The study area was located near the community of Lily and was east of Interstate 75 and adjacent to Storms Road. The study area included 103 ha (256 acres), of which 35 ha (87 acres) were surveyed. The balance, 68 ha (169 acres), consisted of land that had been previously strip mined. The field investigation revealed that the majority of the 35 ha area had also been affected by previous strip mining activities. The fieldwork consisted of an intensive pedestrian survey supplemented with shovel testing. No archaeological sites or historic properties were located within the study area, and clearance for the proposed construction activity was recommended (Hughes and Hand 1992).

On March 17, 1994, Arrow Enterprises personnel conducted an archaeological survey of a proposed water tower site northeast of Corbin in Laurel County, Kentucky (Schock 1994). At the request of James D. Sensabaugh of the Laurel County Water District, an area of 36 m x 46 m (110 ft x 150 ft) was investigated by pedestrian survey supplemented with shovel testing. No archaeological sites were identified, and no further work was recommended.

In 1995, Arrow Enterprises personnel also completed a 38 ha (96-acre) pedestrian survey of a proposed industrial park near the community of Lily, Kentucky. The survey was conducted at the request of Randall G. Lowman for the Laurel County Industrial Development Authority. The field methods consisted of pedestrian survey supplemented by shovel testing. No archaeological sites were documented, and no additional archaeological work was recommended (Schock 1995).

Between January 30 and February 2, 2006, CRA personnel conducted an archaeological survey of a proposed borrow and expansion area for the Laurel Ridge Landfill in southern Laurel County, Kentucky (Arnold 2006). The survey was conducted at the request of Tim Oakes of Kenvirons, Inc., on behalf of Waste Management, Inc. Approximately 51.40 ha (127.09 acres) were investigated by pedestrian survey and screened shovel tests. One late-nineteenth- to twentieth-century farm/residence was identified during the survey (15L1365). The site yielded a small number of artifacts and had poor integrity. It was not recommended eligible for inclusion in the NRHP, and no further work was recommended.

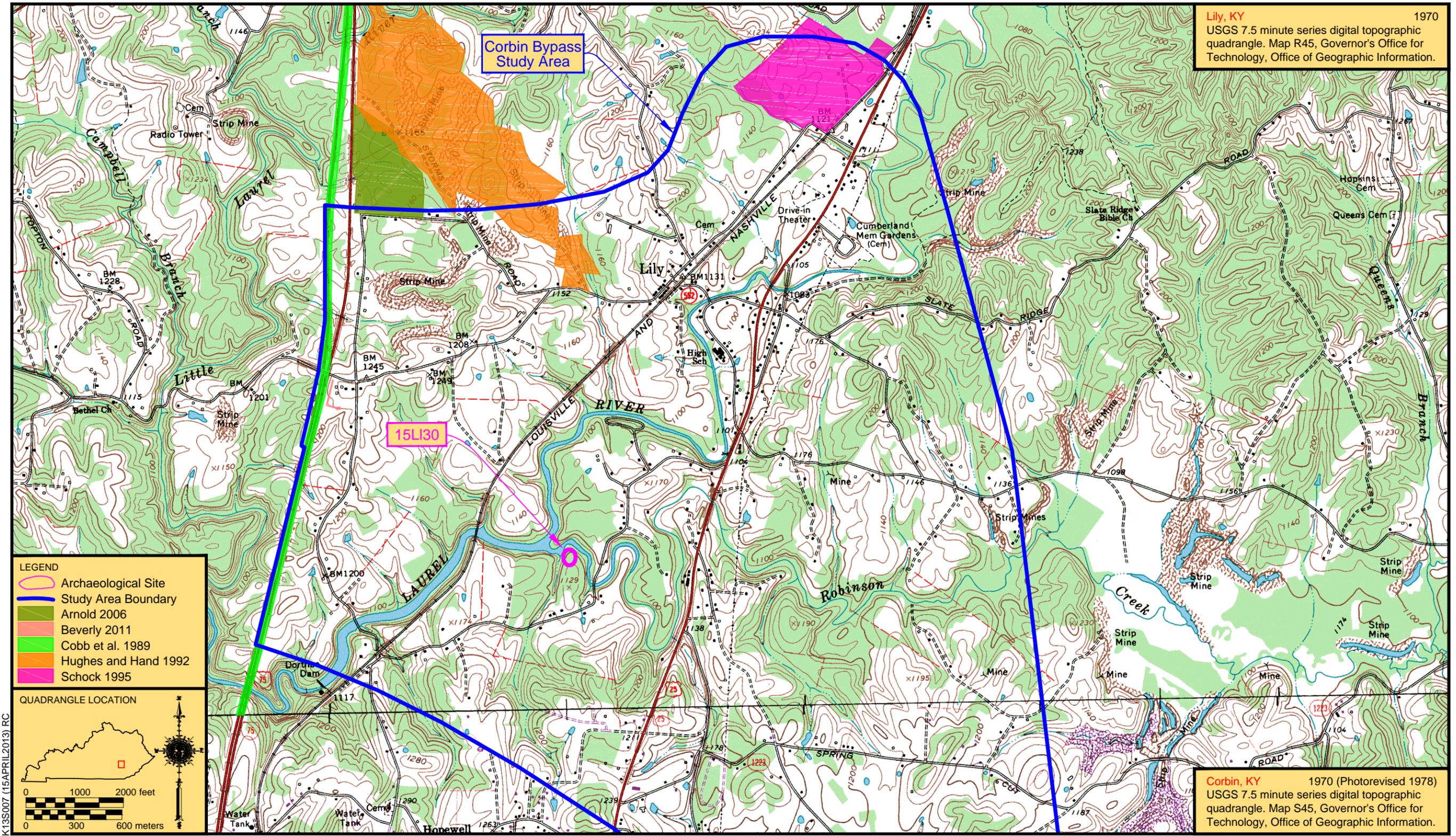


Figure 1a. Topographic map showing previous archaeological surveys and sites within the study area.

On June 3, 2011, Wilbur Smith Associates personnel conducted an archaeological survey of a proposed cell tower location in Laurel County, Kentucky (Beverly 2011). The survey was conducted at the request of Dynamic Environmental Associates, Inc., and consisted of a .02 ha (.06-acre) lease area and a .16 ha (.39-acre) access road/utility easement. Field methods consisted of a pedestrian survey supplemented with screened shovel testing. No archaeological sites were documented, and project clearance was recommended.

The one site in the study area (Site 15L130) did not have an associated report or site form on file in the OSA records. Documented communication between R. Berle Clay and Sue Daniel in 1978 indicates that the site is a mound complex with stone grave burials reported to OSA by Sue Daniel.

Cultural Historic Results

KHC GIS data requested by CRA on April 3, 2013, was returned on April 4, 2013, and researched by Kathy Martinolich on April 11, 2013. The work at KHC consisted of a review of professional survey reports and records of cultural historic sites located within and adjacent to the project study area. The records review identified no previously recorded cultural historic sites and no previously completed cultural historic surveys within or adjacent to the study area.

CRA is currently completing a cultural historic baseline survey for the proposed U.S. 25 reconstruction from KY 1006 to the U.S. 25/U.S. 25E/U.S. 25W intersection in Laurel County (Item Number 11-8515.00). The area of potential effect (APE) for that project overlaps with the study area for the proposed Corbin Bypass project. CRA recorded a total of 93 cultural historic sites within this overlapping area (Figure 2). The majority of these are Ranch houses, bungalows, and other modest twentieth-century dwellings (Table 1). CRA recommends that only one of these sites, LL 449, is eligible for listing in the NRHP. Crossing the Laurel River along Old U.S. 25, approximately 1.30 km (.08 mi) north of Slate Ridge Road in the community of Lily, LL 449 is eligible for listing in the NRHP under Criterion C in the area of Engineering as an excellent and rare example of a pinned Pratt deck truss bridge in Kentucky. Although the final baseline report has not yet been reviewed by KHC, KHC has reviewed CRA's overview study completed for this project and concurred with CRA's initial NRHP assessments of the properties.

Map Review

In addition to the file search, a review of available maps in the private collection at CRA was initiated to help identify any historic structures that may have been located within the study area. The following maps were reviewed:

- 1937a Highway and Transportation Map of Knox County, Kentucky (Kentucky Department of Highways [KDOH]);
- 1937b Highway and Transportation Map of Laurel County, Kentucky (KDOH);
- 1951a General Highway Map of Knox County, Kentucky (Kentucky State Highway Department [KSHD]);
- 1951b General Highway Map of Laurel County, Kentucky (KSHD);
- 1952a Corbin, Kentucky, 7.5-minute series topographic quadrangle (United States Geological Survey [USGS]);
- 1952b Lily, Kentucky, 7.5-minute series topographic quadrangle (United States Geological Survey [USGS]);
- 1959 General Highway Map of Laurel County, Kentucky (KDOH).

The reviewed historic maps indicate that a large number of structures older than 50 years are located within the study area. The earliest maps of the area, dating to 1937 (KDOH 1937a and 1937b), depict particularly dense concentrations of structures within and around the community of Lily and along U.S. 25 at the north end of the study area (Figures 3 and 4). The later USGS maps for Corbin and Lily (USGS 1952a and 1952b) show that development continued to focus on these areas through the 1950s (Figures 5 and 6).

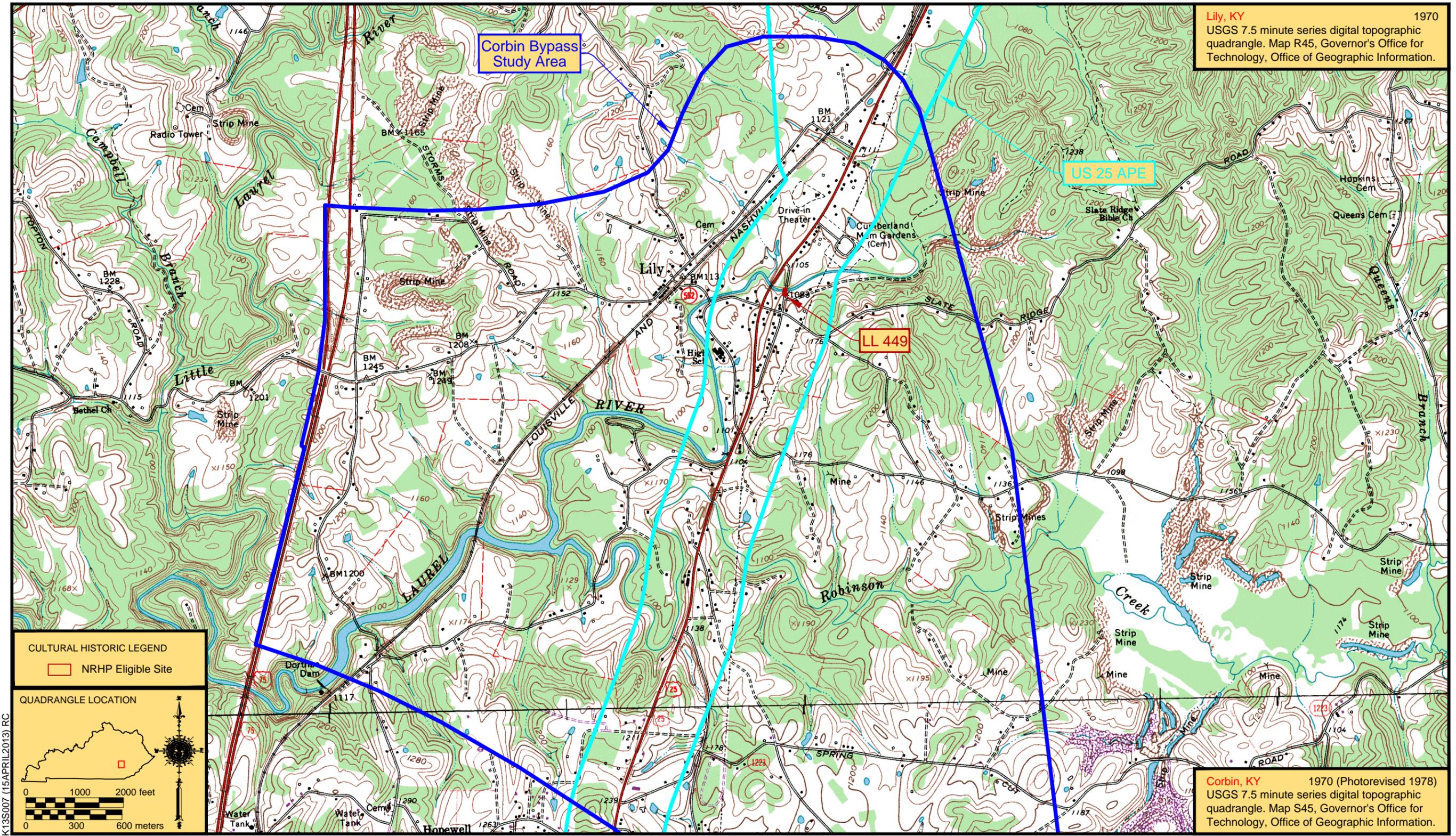


Figure 2a. Topographic map depicting the overlapping Corbin Bypass study area and U.S. 25 APE with the location of LL 449, an NRHP eligible site

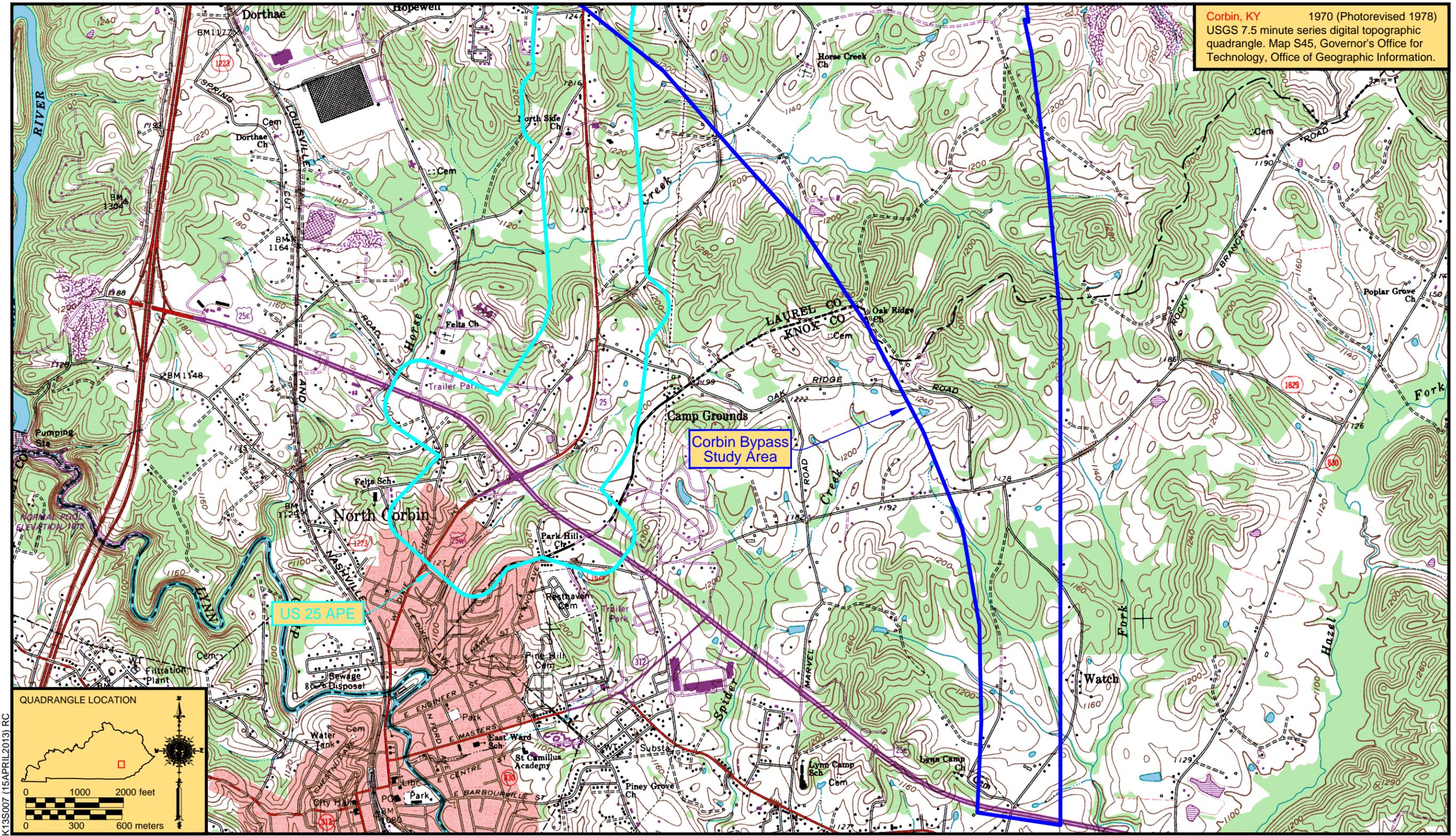


Figure 2b. Topographic map depicting the overlapping Corbin Bypass study area and U.S. 25 APE with the location of LL 449, an NRHP eligible site.

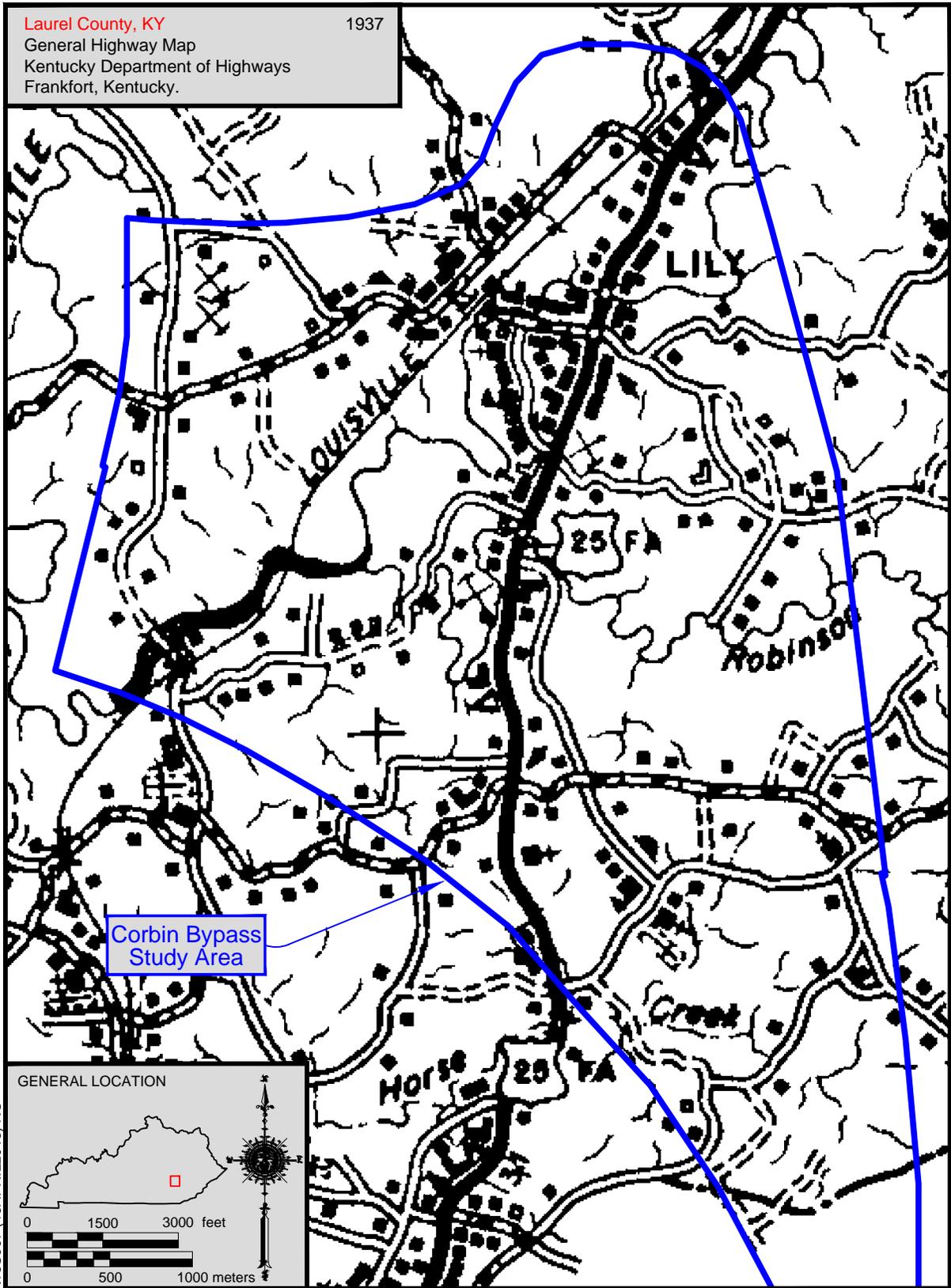


Figure 3. Study area on 1937 Laurel County Highway Map.

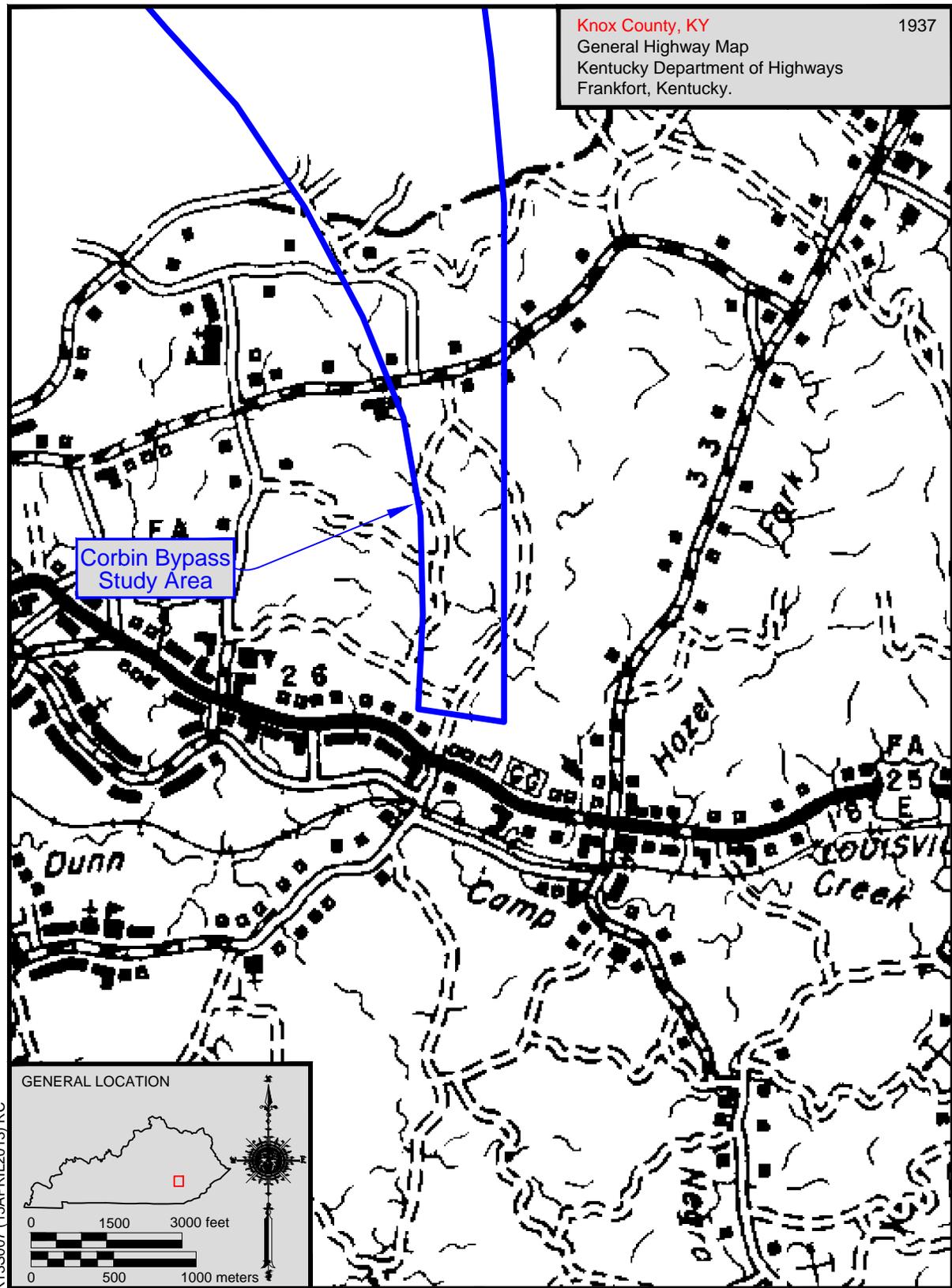


Figure 4. Study area on 1937 Knox County Highway Map.

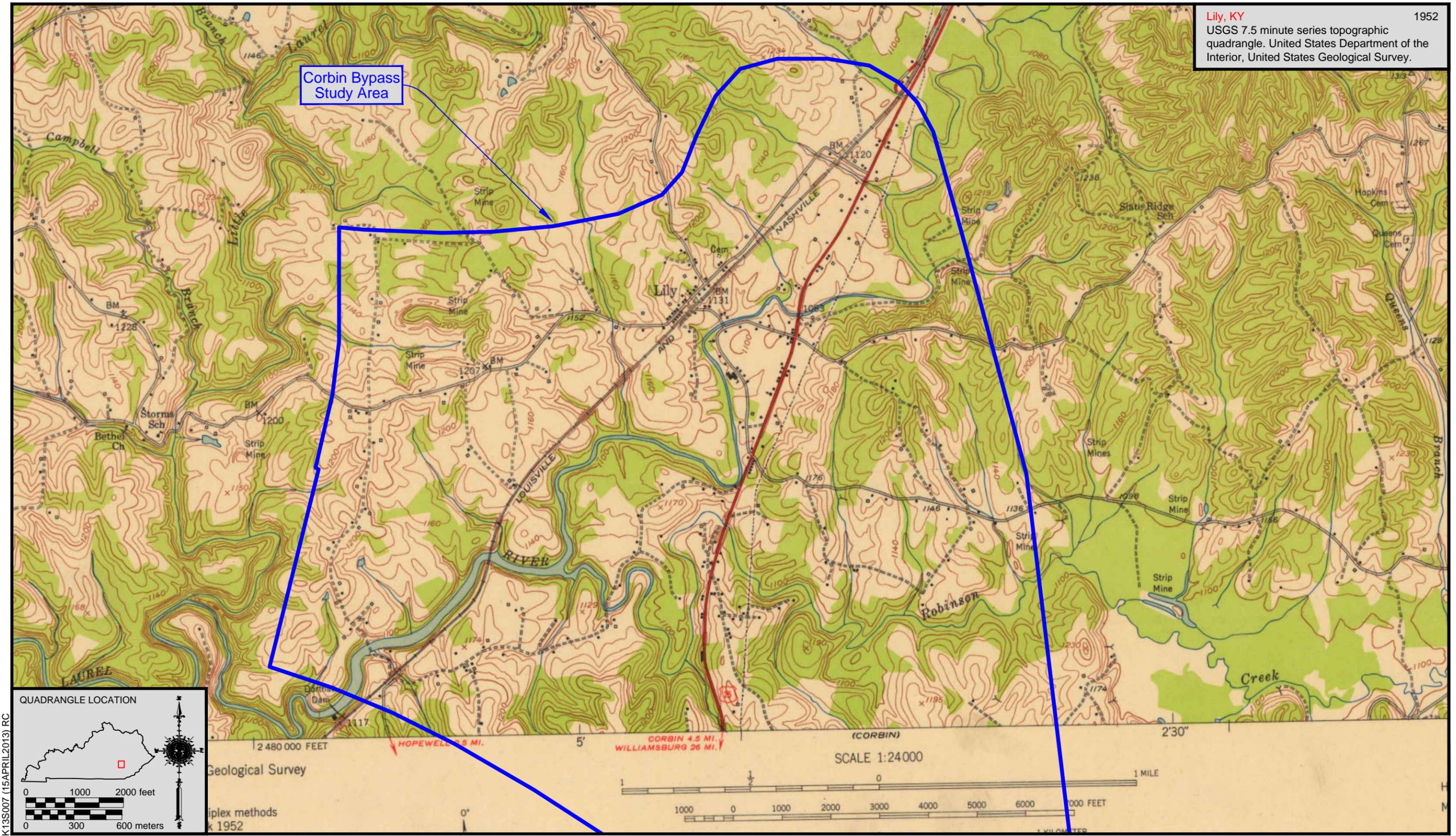
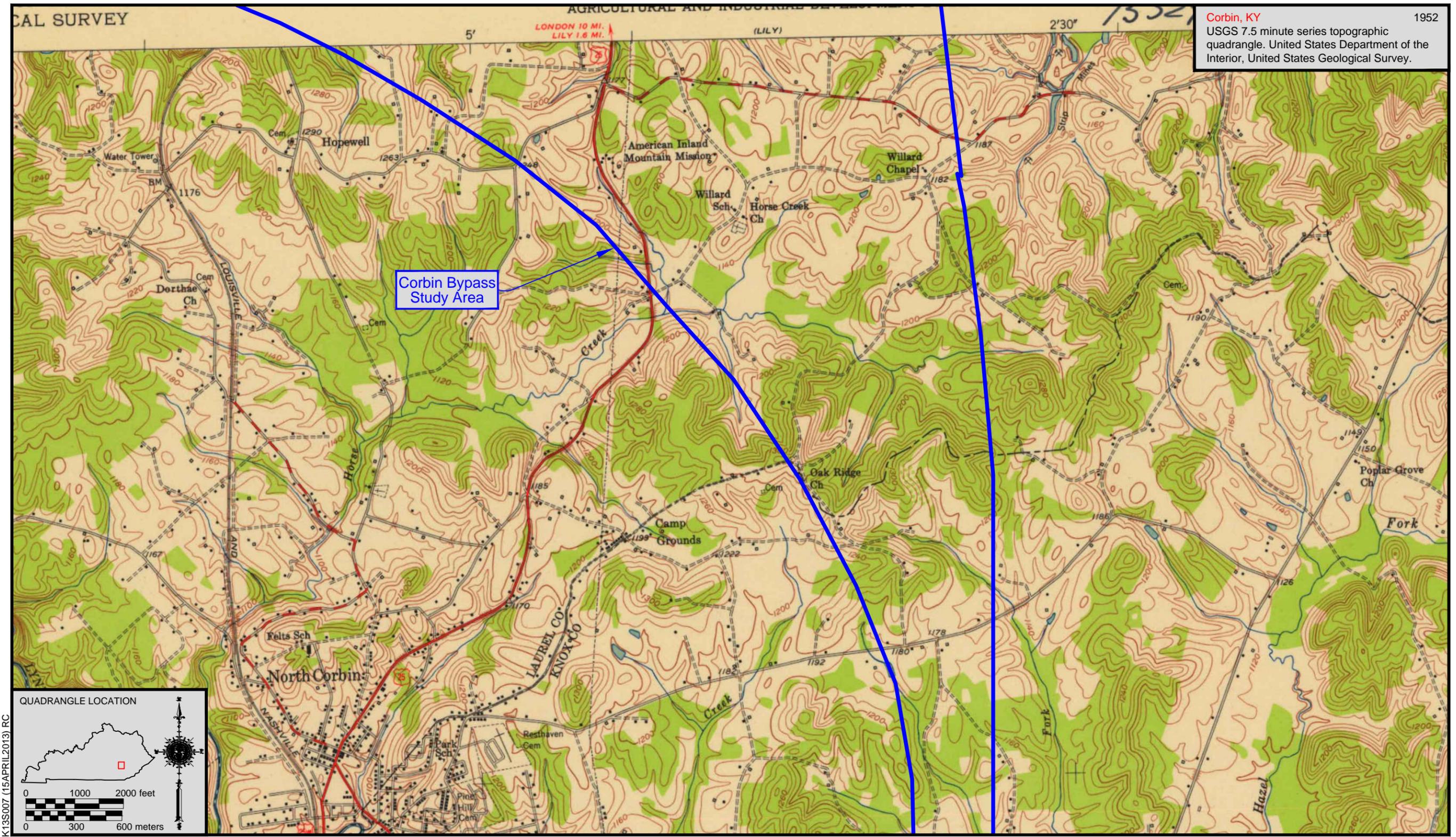


Figure 5. Study area on 1952 Lily 7.5' quadrangle map.



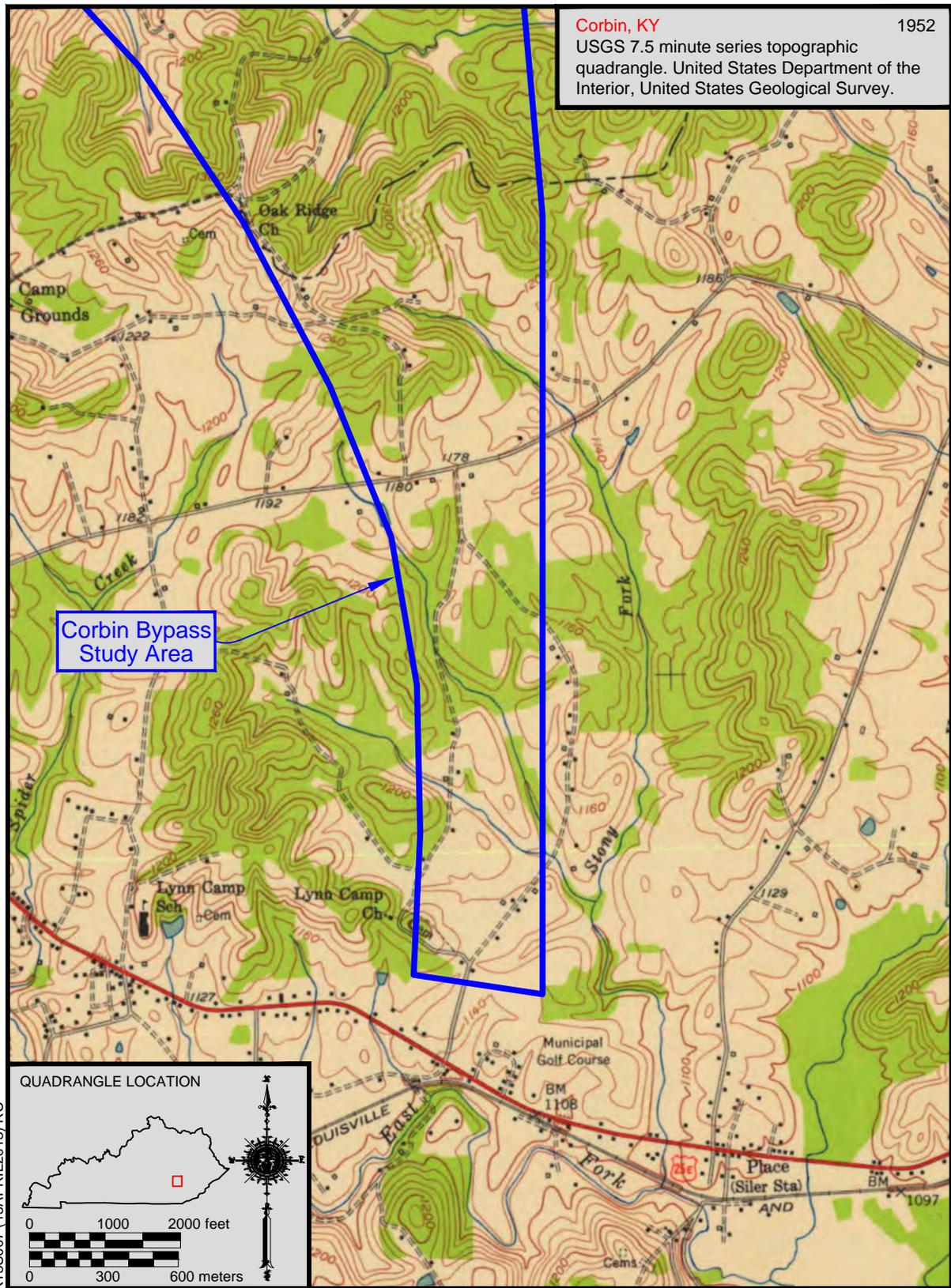


Figure 6b. Study area on 1952 Corbin 7.5' quadrangle map.

Table 1. Cultural Historic Sites Recorded by CRA for the Cultural Historic Baseline Survey for the Proposed Reconstruction of U.S. 25 and Located within the Study Area for the Corbin Bypass Project.

KHC Survey Number	Description	NRHP Eligibility
LL 428	concrete underpass	Ineligible
LL 429	reinforced concrete slab culvert with stone substructure	Ineligible
LL 438	vacant concrete block filling station and garage	Ineligible
LL 438	vacant concrete block filling station and garage	Ineligible
LL 439	single-story, three-bay, double-pile, flat-roof, concrete block commercial building converted to a dwelling	Ineligible
LL 440	R.C. Miller Oil Company	Ineligible
LL 441	T-plan cottage	Ineligible
LL 442	two-story, four-bay, front-gable, concrete block commercial building	Ineligible
LL 443	Cumberland Memorial Gardens	Ineligible
LL 444	vacant concrete block filling station	Ineligible
LL 445	remnants of concrete block drive-in theater screen	Ineligible
LL 446	Farmstead with Tudor Revival dwelling	Ineligible
LL 447	single-story, three-bay, double-pile, side-gable, frame dwelling	Ineligible
LL 448	single-story, three-bay, double-pile, side-gable, frame dwelling with addition	Ineligible
LL 449	Pinned Pratt deck truss bridge	Eligible
LL 450	reinforced concrete T-beam bridge	Ineligible
LL 451	frame house in ruins	Ineligible
LL 452	one-and-one-half-story, three-bay, double-pile, side-gable, frame dwelling	Ineligible
LL 453	single-story, three-bay, front-gable, frame commercial building	Ineligible
LL 454	single-story, three-bay, double-pile, cross-gable, frame dwelling	Ineligible
LL 455	T-plan cottage with side extension	Ineligible
LL 456	single-story, three-bay, single-pile, side-gable, frame dwelling	Ineligible
LL 457	one-and-one-half-story, three-bay, single-pile, side-gable, frame dwelling	Ineligible
LL 458	Cornerstone Christian School (formerly Lily High School), modified WPA-era school	Ineligible
LL 459	barn, converted to dwelling, currently vacant	Ineligible
LL 460	five-bay, frame split-level dwelling	Ineligible
LL 461	single-story, three-bay, double-pile, side-gable, frame residence with a steel Warren pony truss bridge	Ineligible
LL 462	two-story, three-bay, double-pile, side-gable, frame dwelling	Ineligible
LL 463	concrete arch culvert	Ineligible
LL 464	concrete barrel culvert	Ineligible
LL 465	single-story, three-bay, front-gable, concrete block commercial building	Ineligible
LL 466	mobile home	Ineligible
LL 467	single-story, four-bay, concrete block commercial building with additions (former filling station)	Ineligible
LL 468	single-story, two-bay, double-pile, side-gable, rusticated concrete-block dwelling	Ineligible
LL 469	reinforced concrete deck girder bridge	Ineligible
LL 470	single-story, two-bay, double-pile, side-gable, frame dwelling and associated non-historic structures	Ineligible
LL 471	mobile home	Ineligible
LL 472	former Sinclair truck stop/filling station	Ineligible
LL 473	Turners Apartments; former restaurant and motel	Ineligible
LL 474	single-story, single-bay, double-pile, front-gable, frame dwelling	Ineligible
LL 475	concrete block garage	Ineligible
LL 476	Tudor Revival dwelling	Ineligible
LL 477	single-story, four-bay, double-pile, hip-roof, frame dwelling	Ineligible
LL 478	Tudor Revival dwelling	Ineligible
LL 505	American Bungalow	Ineligible
LL 506	Southern Bungalow	Ineligible
LL 507	Southern Bungalow	Ineligible
LL 508	Southern Bungalow	Ineligible
LL 509	Southern Bungalow	Ineligible
LL 510	American Bungalow	Ineligible
LL 511	Southern Bungalow	Ineligible
LL 512	American Bungalow	Ineligible
LL 513	Southern Bungalow with addition	Ineligible
LL 514	Southern Bungalow	Ineligible
LL 515	Southern Bungalow	Ineligible
LL 516	Southern Bungalow	Ineligible
LL 517	Southern Bungalow	Ineligible
LL 518	Southern Bungalow	Ineligible
LL 519	Southern Bungalow	Ineligible
LL 520	Southern Bungalow with addition	Ineligible

KHC Survey Number	Description	NRHP Eligibility
LL 521	Southern Bungalow	Ineligible
LL 522	Southern Bungalow	Ineligible
LL 523	Southern Bungalow	Ineligible
LL 524	Southern Bungalow with addition	Ineligible
LL 525	Southern Bungalow with addition	Ineligible
LL 526	Southern Bungalow	Ineligible
LL 527	Southern Bungalow	Ineligible
LL 582	Ranch and outbuildings	Ineligible
LL 583	Ranch	Ineligible
LL 584	Ranch	Ineligible
LL 585	Ranch	Ineligible
LL 586	Ranch	Ineligible
LL 587	vacant Ranch	Ineligible
LL 588	Ranch	Ineligible
LL 589	Ranch	Ineligible
LL 590	Ranch	Ineligible
LL 591	Ranch	Ineligible
LL 592	Ranch	Ineligible
LL 593	Ranch	Ineligible
LL 594	Ranch	Ineligible
LL 595	Ranch with addition	Ineligible
LL 596	Ranch	Ineligible
LL 597	Ranch	Ineligible
LL 598	Ranch	Ineligible
LL 599	Ranch	Ineligible
LL 600	Ranch	Ineligible
LL 601	Ranch	Ineligible
LL 602	Ranch	Ineligible
LL 603	Ranch	Ineligible
LL 604	Ranch	Ineligible
LL 631	transverse frame barn	Ineligible
LL 632	transverse frame barn in ruins	Ineligible
LL 633	front-gable, round-log barn	Ineligible

Additional features of note on these maps include two cemeteries (one located northeast of Lily [Cumberland Memorial Gardens] and one adjacent to Lynn Camp Church), one school (now Cornerstone Christian School), and one church (Oak Ridge Church) (Figures 5 and 6).

Summary and Recommendations

The OSA records review indicated that only one prehistoric archaeological site (Site 15L130) has been documented within the study area. However, only a small portion of the study area has been previously surveyed. CRA therefore recommends that an archaeological survey be conducted for all portions of the study area that are due to be impacted by the project and that have not been previously surveyed (see Figure 1). In addition, if Site 15L130 cannot be avoided by the proposed project, an archaeological evaluation will be required to assess its eligibility for inclusion in the NRHP.

The KHC records review identified no previously recorded cultural historic sites within the study area. However, CRA is currently completing a cultural historic baseline survey for the proposed reconstruction of U.S. 25 in Laurel County. A portion of the APE for the U.S. 25 project overlaps the proposed study area. CRA identified 93 cultural historic sites within this overlapping area, only 1 of which, LL 449, is recommended eligible for listing in the NRHP. Since large portions of the study area have not been previously surveyed for cultural historic resources, and historic maps data indicate that a large number of properties over 50 years in age are located within the study area (see Figures 3–6), CRA recommends that a cultural historic baseline survey of the portions of the study area not included in the U.S. 25 project's APE be conducted to identify any historic properties that may be affected by the proposed project.

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1937b Highway and Transportation Map of Laurel County, Kentucky. Prepared in cooperation with the United States Department of Agriculture, Bureau of Public Roads.

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1952a Corbin, Kentucky, 7.5-minute series topographic quadrangle. United States Geological Survey, Washington, D. C.

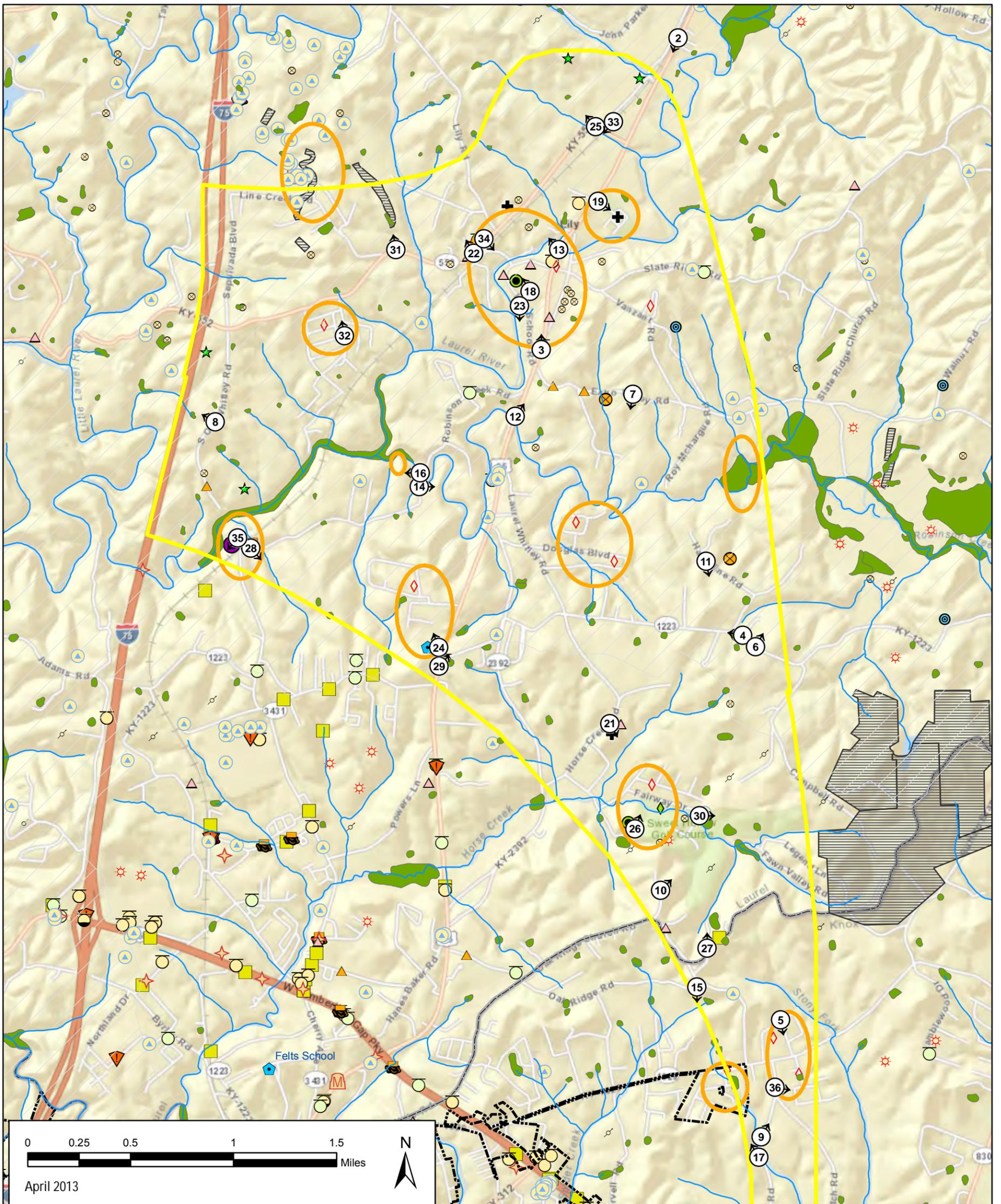
1952b Lily, Kentucky, 7.5-minute series topographic quadrangle. United States Geological Survey, Washington, D. C.

1970a Corbin, Kentucky, 7.5-minute series topographic quadrangle. United States Geological Survey, Washington, D. C.

1970b Lily, Kentucky, 7.5-minute series topographic quadrangle. United States Geological Survey, Washington, D. C.

ATTACHMENT D

Photograph Index Map and Study Area Representative Photographs



Legend

Photo Number, Location and Direction	Cemetery	CERCLIS
Sensitive Areas	House of Worship	AIRS
Study Area	Golf Course	Hist Auto Station
NWI Wetland	Neighborhood	ERNS
Spring (KGS)	Recreation	HIST LF
SWAP Area	School	LUST
City Boundary	Underground Mine	RCRA
Water Wells		
Non-Public	Utility	SHWS
PUBLIC	Fire Department	SWF/LF
Oil & Gas Wells		
Active	Active	USEPA Wastes
Other	Other	
	Mined Out Area	

ATTACHMENT D
 Photograph
 Index Map
ENVIRONMENTAL OVERVIEW
 Corbin Bypass (KY 3041) Extension Study
 Knox and Laurel Counties, Kentucky



Photo 1: KY 3041 at US 25E; south terminus of study area; facing north.



Photo 2: US 25 at north end of study area; facing southwest.



Photo 3: Commercial land use in study area; US 25 near Lily; facing north.

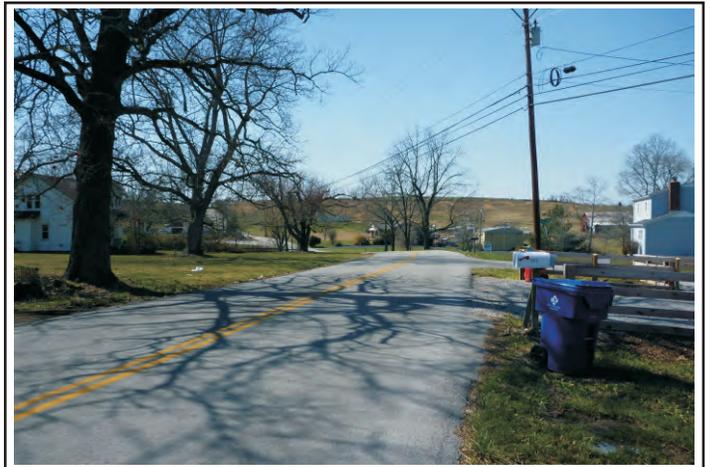


Photo 4: Example view of low density residential land use in rural portions of the study area; looking along Spring Cut Road (KY 1223); facing west.



Photo 5: Example view of low density residential land use in recent suburban development; Wildwood Trace development; facing south.



Photo 6: Example view of agricultural land use, pasture, in study area; facing north.



Photo 7: Example view of agricultural land use, fallow fields, in study area; facing south



Photo 8: Example view of agricultural land use, hay, in the study area; facing northwest.



Photo 9: Example view of forested land use in study area; facing along Lynn Camp Church Road, northeast.



Photo 10: General view of rolling topography of much of the study area; facing northeast.



Photo 11: Example view of the open ridges and wooded stream valleys prominent throughout the study area; facing south.



Photo 12: Descriptive view of geology of the study area; stratified sandstone, shale and siltstones along US 25; facing northeast.

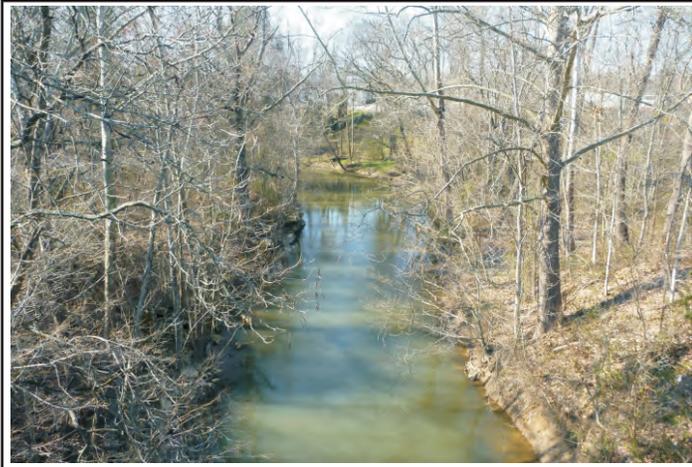


Photo 13: Laurel River at US 25; largest surface stream in study area, KDOW 305(b) and 303(d) listed water; facing downstream, northwest.

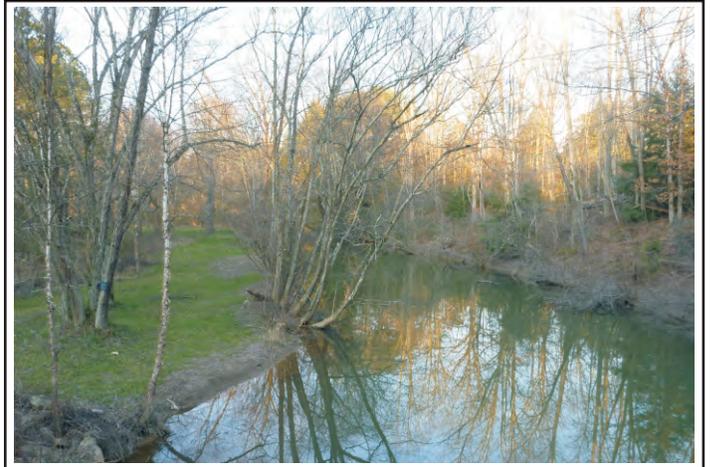


Photo 14: Robinson Creek and associated floodplain within study area; facing upstream, east.



Photo 15: Typical NWI mapped wetland in study area, residential recreational pond; facing south.



Photo 16: Example view of potential habitat for federal and state listed threatened and endangered species in study area; Robinson Creek, riparian woods, and rock overhang; facing west.



Photo 17: Example view of woodland habitat in study area; beech-oak mix at lower elevations; facing northwest.



Photo 18: Potential Section 4(f) facility in study area; athletic fields associated with Lily Baptist Church on Lily School Road; facing northwest.



Photo 19: Large cemetery located in study area; Cumberland Memorial Gardens on US 25; facing southeast.

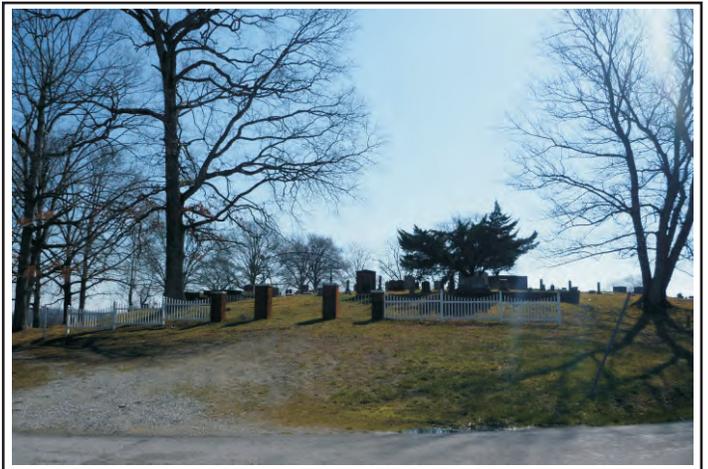


Photo 20: Smaller cemetery located in study area; Lynn Camp Cemetery on Lynn Camp Church Road; facing east.



Photo 21: Example of smaller church in study area; Horse Creek Church, Horse Creek Road; facing southeast.



Photo 22: Example of social resource in study area; Lily Fire Department on KY 552 at Underpass Road; facing northwest.



Photo 23: Social resource in study area; Cornerstone Christian School, 420 Lily School Road; facing south.



Photo 24: Social resource in study area; Hunter Hills Elementary School, 8325 US 25; facing northwest.



Photo 25: Industrial facility in study area; Aisin Automotive Castings at KY 552 and Greta Ln; facing northwest.



Photo 26: Sweet Hollow Golf Course located in study area; facing northeast.



Photo 27: Approximate location of RCRA listed facility, Stallion Oil Company, Jenny Lane; one AST marked "Used Oil" at location storing used trailer homes, facing north.



Photo 28: SHWS and Historic Landfill location, DG Trucking, 1282 Robinson Creek Road; gravel lot with industrial equipment; facing southeast.



Photo 29: One of several UST records in study area; Mac's Filling Station on US 25; facing northeast.



Photo 30: Active gas well located on Sweet Hollow Golf Course; facing east.



Photo 31: Laurel Ridge Landfill, active landfill accessed from KY 552 within study area; facing northwest.



Photo 32: Example view of noise sensitive receptor in study area; suburban neighborhood off KY 552; facing north.



Photo 33: CSX active rail line passing through study area; at-grade crossing at KY 552; facing southwest.



Photo 34: Rail line underpass; Underpass Road at Lily; facing southeast.



Photo 35: Laurel Water District #2 water treatment plant at Water Plant Road; facing southwest.



Photo 36: Example view of utility infrastructure present in study area; electrical substation at Watch Road and Lynn Camp Church Road; facing east.