



3 HMB Circle
Frankfort, KY 40601

MEMORANDUM

To: Rebecca Thompson, Qk4
From: Michael Leathers, HMB
Date: June 17, 2022
Re: Environmental Overview
East Lebanon Bypass, Marion County
KYTC Item No. 4-80152 & 4-80153

Introduction

An environmental overview was completed for the proposed bypass project east of Lebanon in Marion County. This project is identified as KYTC Item No. 4-80152 and 4-80153. The goal of the overview was to identify potential red-flag environmental data that may affect the design, development, and implementation of any proposed improvements.

The overview was completed for an approximately 6,000-foot-wide study area that begins along KY 55 north of Lebanon, traverses east and continues just outside the Lebanon city limits to its end at KY 2154 in southwest Lebanon. The study area encompasses approximately 4,480 acres.

Environmental resources were identified through a combination of reviewing online databases and mapping and a windshield survey of the project area.

Natural Environment

The natural environment includes all things that are not man-made, such as air, land, water, vegetation, and animal life.

Physiography/Topography

Marion County includes parts of the Outer Bluegrass and Mississippian Plateaus Regions, the area where the Bluegrass meets The Knobs. Much of Marion County consists of rolling hills, with local relief typically ranging from 50 to 100 feet. Slopes are rarely steep, except adjacent to principal drainage lines. Locally, flat surfaces may be present on ridgetops or benches where ridgetop elevations generally range between 800 and 900 feet mean sea level (msl). The elevation of Lebanon, the county seat, and the project area is approximately 790 to 800 feet msl. The project area is within the United States Geological Survey (USGS) Lebanon East and Lebanon West topographic map areas. Although sinkholes are present within Marion County, there are no known sinkholes in the study area.

Watersheds & Streams

The study area is in the larger Rolling Fork watershed, designated as 8-digit Hydrologic Unit Code (HUC) 05140103. This watershed is subdivided into the 10-digit HUC's of Lower Beech Fork (0514010303) and Upper Rolling Fork (0514010304), and then 12-digit HUC's of Upper Cartwright Creek (051401030301), Hardins Creek (051401030303), Pope Creek-Rolling Fork (051401030405), and Cloyd Creek-Rolling Fork (051401030406).

Blueline stream located within the study area include Cartwright Creek, Hardins Creek, Pontchartrain Creek, and Indian Lick Creek. Cartwright Creek and several of its unnamed tributaries are in the northern section of the study area, north of US 68. The southeast quadrant



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of the study area, between US 68 and KY 49, is divided by a knob with Hardins Creek and its unnamed tributaries to the north and unnamed tributaries of Caney Creek to the south. West of KY 49 is Pontchartrain Creek, Indian Lick Creek, and their unnamed tributaries.

The water quality of streams in the Rolling Fork watershed is often unknown or has not been assessed. Hardins Creek, however, is listed on Kentucky Division of Water’s (KDOW) 303(d) list of impaired streams for only partially supporting aquatic life. Due to this listing, additional mitigation efforts may be required if the proposed improvements impact this stream. None of the streams in the study area are designated as a Special Use Waters.

Floodplains and Floodways

Federal Emergency Management Agency (FEMA) Flood Maps show the 1% Annual Chance Flood Hazard surrounding Cartwright Creek, a tributary of Cartwright Creek, and a tributary of Caney Creek. These floodplain areas on the outer limits of the study area. There is no regulatory floodway in the study area.

Wetlands

The National Wetland Inventory (NWI) identified eight-five (85) palustrine wetlands spread consistently within the study area. This includes numerous ponds, many connected to farming operations. The ponds also make up the larger wetlands in the study area, whereas the remaining non-pond wetlands are relatively small (less than 0.50 acre).

Springs and Water Wells

According to the Kentucky Geological Survey (KGS), 16 water wells (2 domestic and 14 monitoring) within the study area. The 14 monitoring wells are all located near each other, surrounding the local landfill (Marion County Waste Transfer Station) between Fairgrounds Road and Sulphur Springs Road southeast of Lebanon. The KGS database did not identify any springs within the study area.

Listed Species

The U.S. Fish and Wildlife Service (USFWS) lists three bats and seven mussels as T&E species with the potential to be located in the study area, as well as the monarch butterfly as a candidate species for listing. No critical habitat for the listed species is noted within the study area. The listed species include:

Common Name	Scientific Name	Status
Bats		
Gray bat	<i>Myotis grisescens</i>	Endangered
Indiana bat	<i>Myotis sodalist</i>	Endangered
Northern long-eared bat	<i>Myotis septentrionalis</i>	Threatened with 4d Rule
Mussels		
Clubshell	<i>Pleurobema clava</i>	Endangered
Fanshell	<i>Cyprogenia stegaria</i>	Endangered
Northern Riffleshell	<i>Epioblasma torulosa rangiana</i>	Endangered
Orangefoot Pimpleback	<i>Plethobasus cooperianus</i>	Endangered
Pink Mucket	<i>Lampsilis abrupta</i>	Endangered
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Threatened
Ring Pink	<i>Obovaria retusa</i>	Endangered
Snuffbox	<i>Epioblasma triquetra</i>	Endangered
Insect		
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate



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Preferred habitat for the Indiana bat and northern-long eared bat includes caves during the winter months and forested areas during the summer months. The gray bat is primarily found within caves year-around, although it too uses riparian forested habitat for foraging. All three bat species can also be found within bridge crevices. Within the study area is over 1,100 acres of forested habitat, the majority in the southwest of Lebanon between KY 49 and US 68. As for caves, the majority of the study area has low karst potential, with only portions north of US 68 and at the southern end of the study area considered as having moderate potential for karst development. For the listed mussel species, the blueline streams may present suitable habitat.

KYTC typically mitigates for take associated with the habitat loss of these species through usage of the *Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat*. Per this programmatic, the Study Area would be considered “Unsurveyed” habitat for the Indiana bat. The northern-long eared bat qualifies for use of USFWS’s Final 4(d) Rule.

Human Environment

The human environment deals with the man-made environment. It describes the overall land use and demographics as well as individual features such as historic sites, parks, potentially hazardous materials, and more.

Socioeconomics/Environmental Justice (EJ)

A Socioeconomic Report was prepared by the Lincoln Trail Area Development District (LTADD). The report used data from the U.S. Census Bureau 2019 American Community Survey to examine population statistics for minority, elderly, poverty status, limited English Proficiency (LEP), and disabled populations within the Census tracts and block groups of the proposed study area. A copy of the Socioeconomic Report prepared by the LTADD.

In addition to the Socioeconomic Report, a windshield survey of the project area was completed to visually identify potential areas of concern for Environmental Justice. It was noted that there is the potential for low-income residential areas on Sulpher Springs Road near the Marion County Waste Transfer Station and along Fairgrounds Road. No community resources with an EJ connection or primarily serving EJ residents were noted in the project area.

Land Use

With the study area just outside the Lebanon city limits, the land use is primarily rural with large farmland and forested areas intermixed with residential properties. The developed areas are strictly surrounding the major highways of KY 55 and US 68. Along these routes are numerous commercial operations, industrial facilities, and multiple schools. There are also several manufacturing plants between KY 55 and US 68. The southern portion of the study area is strictly rural, although it does contain a portion of the residential neighborhood locally known as January Woods. The western limits are mostly farmland, as it stays just south of a large industrial park.

Farmland

A large portion of the study area is used for agricultural use. To determine the quality of soil types, the Natural Resource Conservation Service’s (NRCS) soil survey was completed. This analysis showed that approximately 26% of the study area has soils representative of prime farmland. An additional 17% of soils would be considered prime farmland under certain conditions (e.g., drained, or not frequently flooded during the growing season). The remaining 57% are made up of soils not considered prime farmland.

Coordination with the NRCS Division of Conservation identified one agricultural district within the study area. This district is composed of two properties located along Sulpher Springs Road and Helm School House Road that are approximately 330 acres combined. The Agricultural District



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Program is a program operated by the NRCS with the goal of protecting agricultural land and preventing its conversion to nonagricultural usage. Districts, such as the one in the project study area, receive certain protection and benefits. For example, these districts cannot be annexed and cannot be condemned without mitigation.

Community Areas of Interest

With most of the development adjacent to KY 55 and US 68, this is also where most of the community resources. The resources identified include:

- Churches – there are two churches in the study area. The Church of Jesus Christ of Latter-Day Saints is located along KY 55 at the northern end of the study area and south of KY 2154. The Open Arms Community Church, located on the north side of US 68, is divided by the study area.
- Schools – Marion County Public Schools system operate within a large portion of the land north of US 68 from Corporate Drive to Barbers Mill Road. Within this area are three schools, including the county’s only high school, a technology center, numerous athletic fields, a county school administration building, and the county’s bus garage. In all, this complex covers approximately 125 acres of land.
- Kentucky Cooperage – this famous cooperage builds barrels used around the world and is important part of the famous bourbon industry of the area. The cooperage is a popular tourist attraction, with tours provided daily as part of the Kentucky Bourbon Trail and the Bourbon Trail Craft Tour. It also serves as a large employer to the community. The Cooperage property is on both sides of US 68, although the operation plants are primarily to the south.
- Makers Mark Water Tower – Located at the corner of KY 55 and Corporate Drive, this water tower is painted to depict the pouring of the locally produced Makers Mark bourbon. Next to the tower is a photo opportunity for tourists of the nearby Maker’s Mark distillery tower and those on the Kentucky Bourbon Trail.
- Kroger – while grocery stores are not typically considered a community resource, this is one of the few groceries in the county. It is also commonly used by residents of the neighboring Washington County. It is located at the corner of Corporate Drive and US 68.
- Marion County Waste Transfer Station – the county’s landfill is located within the study area between Fairgrounds Road and Sulpher Springs Road.

No community resource was identified within the study area west of Fairgrounds Road. The study area stays just south of many community resources, such as two historic cemeteries, the Marion County Fairgrounds, the local park (Graham Memorial Park), and the Lebanon Country Club.

A review of available databases did not identify any properties within the study that received funding from the Land and Water Conservation Fund (LWCF).

Hazardous Materials

Databases from the U.S. Environmental Protection Agency (EPA), as well as a windshield survey, identified numerous sites with the potential for hazardous materials located within and surrounding the study area. The majority of sites are along KY 55 or US 68, however, the rural section of the study area, southwest of Lebanon, include a recycling center, the Marion County Waste Transfer Station, and a junkyard. The western limits of the study area avoid the industrial area that contains several hazardous material sites.



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Noise and Air Quality

Noise sensitive land uses in the study are primarily residential properties throughout the study area and the athletic fields associated with the school complex north of US 68. Due to the rural nature of the study area, particularly surrounding the farmlands, noise impacts from a substantial increase in sound levels may occur with the development of a bypass through the area. However, with a lack of noise receptors in close proximity, it is unlikely that noise barriers will meet KYTC's feasibility and reasonableness criteria.

As required by the Clean Air Act, the U.S. Environmental Protection Agency (EPA) set National Ambient Air Quality Standards (NAAQS) for six common air pollutants. Those that are caused by transportation-related sources include carbon monoxide (CO), ozone (O₃), particulate matter (PM_{2.5} and PM₁₀), and nitrogen dioxide (NO₂). The study area, and all of Marion County, is in attainment for each of the six common air pollutants. Compliance with the air quality standards will be required by the Lincoln Trail Area Development District, the metropolitan planning organization (MPO) that covers Marion County.



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Photographs



Mechanic Shop located along KY 55



Marion County High School



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Marion County Area Technology Center



Glascock Elementary School



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Marion County High School's Football Field



Kroger



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Kentucky Cooperage 1



Kentucky Cooperage 2



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Jack's Recycling Center, LLC



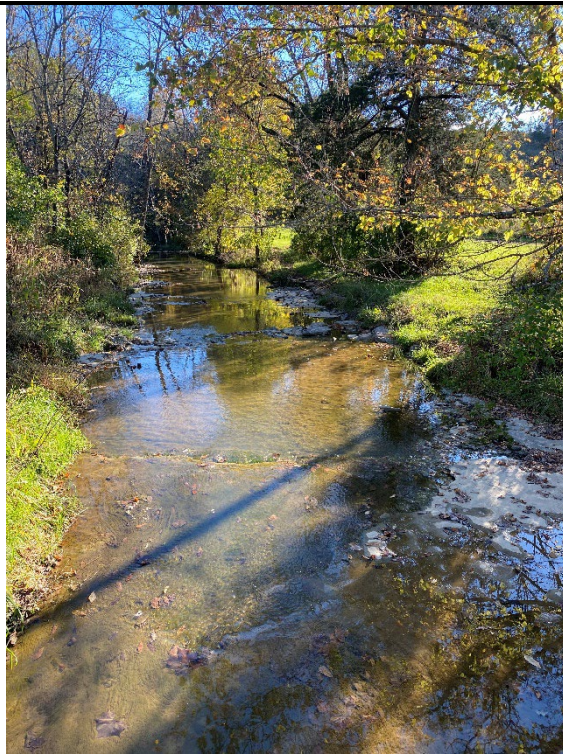
Typical Pond found Adjacent to Farmland in the Project Area



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Typical Rural Setting: Farmland Surrounded by Knobs



Stream in the Project Area: Unnamed Tributary of Caney Creek (1)



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Stream in the Project Area: Unnamed Tributary of Caney Creek (2)



Marion County Waste Transfer Station



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Maker's Mark Water Tower



Former Gas Station Along KY 55



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Open Arms Community Church



Church of Jesus Christ of Latter-Day Saints