



TRANSPORTATION CABINET

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

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

June 1, 2012

CALL NO. 310
CONTRACT ID NO. 121018
ADDENDUM # 1

Subject: Menifee County, JL04 083 0460 010-014
Letting June 15, 2012

- (1) Revised - Special Note - Page 22 of 119
- (2) Added - Special Notes - Pages 22(a)-22(b) of 119
- (3) Added - KPDES Note - Page 53(a) of 119
- (4) Added - KPDES Notes - Pages 75(a)-75(m) of 119

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in blue ink that reads "Ryan Griffith".

Ryan Griffith
Director
Division of Construction Procurement

RG:ks
Enclosures



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SPECIAL NOTE CONCERNING BIOLOGICAL ASSESSMENT AND BEGIN WORK ON PROJECT

MENIFEE COUNTY

US460 REALIGNMENT PROJECT

10-117.01

As part of the Biological Assessment and subsequent addendum dated February 24, 2012, regarding the federally listed gray bat, Indiana bar and Virginia big-eared bat, KYTC has committed to hold the award until November 1st, 2012. At which time tree cutting will be allowed from November 15th, 2012 thru March 31st, 2013.

**SPECIAL NOTE FOR
PAVEMENT DESIGN CHANGE**

CROSS-SECTIONS FOR THIS PROJECT WERE DEVELOPED FOR A PAVEMENT THICKNESS OF 16.25 INCHES. THE PAVEMENT DESIGN WAS LATER REVISED. TYPICAL SECTIONS WERE AND EARTHWORK QUANTITIES WERE ADJUSTED TO REFLECT THIS CHANGE. HOWEVER, CROSS-SECTIONS WERE NOT REVISED AND, IN THIS CASE, TYPICAL SECTIONS GOVERN OVER CROSS-SECTION. MAKE FINAL PAYMENT ON ADJUSTED QUANTITIES.

TYPICAL SECTIONS FOR ALTERNATE PAVEMENT DESIGNS ARE ALSO INCLUDED WITH THE ROADWAY PLAN. HOWEVER, THERE ARE NO DEVELOPED CROSS-SECTIONS FOR ALL ALTERNATE PAVEMENT DESIGNS, SO TYPICAL SECTIONS GOVERN OVER CROSS-SECTIONS.

**SPECIAL NOTE FOR
KPDES PERMITS**

THE KENTUCKY DIVISION OF WATER CATEGORIZES EAST FORK INDIAN CREEK AND MARIBA FORK OUTSTANDING STATE RESOURCE WATERS. SPECIAL CONDITIONS ARE REQUIRED FOR THE APPROVED WATER QUALITY CERTIFICATION AND INDIVIDUAL KPDES PERMIT. REFER TO PROJECT EROSION CONTROL PLAN AND THE KPDES PERMIT APPLICATION FOR DETAILS.

SPECIAL NOTE FOR WATER QUALITY CERTIFICATION.

EXCEPTIONAL OUTSTANDING WATER RESOURCE WATERS EXIST IN MARIBA FORK AND THE EAST FORK OF INDIAN CREEK. SPECIAL CONDITIONS HAVE BEEN ESTABLISHED BY THE DIVISION OF WATER FOR THE WATER QUALITY CERTIFICATION ON MARIBA FORK AND EAST FORK OF INDIAN CREEK.

- NO IN-STREAM WORK OR DISTURBANCE SHALL BE CONDUCTED OR IN PLACE WITHIN THE MARIBA FORK OF GLADIE CREEK WATERSHED (PROPOSED STREAM RELOCATION PORTIONS) DURING THE FISH SPAWNING SEASON, FROM APRIL 15TH THROUGH JUNE 15TH. INCREASED SEDIMENT CONTRIBUTIONS MAY BE DETRIMENTAL TO THE AQUATIC LIFE THAT IS ASSOCIATED WITH THE COLD WATER AQUATIC HABITAT DESIGNATION OF THIS WATERSHED.
- THE DIVISION OF WATER, WATER QUALITY CERTIFICATION BRANCH SHALL BE NOTIFIED OF THE DATE OF ANY PRE-CONSTRUCTION MEETING WITH THE CONTRACTOR SELECTED FOR THIS PROJECT
- THE DIVISION OF WATER, WATER QUALITY CERTIFICATION BRANCH SHALL BE NOTIFIED WHEN WORK BEGINS ON THE STREAM RELOCATION PORTION OF THIS PROJECT.
- THE WATER QUALITY CERTIFICATION HAS BEEN INCLUDED IN THE PROPOSAL. PLEASE REFER TO THE CERTIFICATION FOR ADDITIONAL NARRATIVE AND SUBMITTAL/ACTION REQUIREMENTS AS REQUIRED BY THE DIVISION OF WATER.



**KPDES Individual Permit
Supplemental Data**

Re-aligning US 460 in Menifee County
Item 10-117.01



KPDES INDIVIDUAL PERMIT SUPPLEMENTAL DATA

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KPDES INDIVIDUAL PERMIT SUPPLEMENTAL DATA

Project Background

The Kentucky Transportation Cabinet, Department of Highways (KYDOH) proposes to widen and improve a section of U.S. 460 south-southeast of Frenchburg in Menifee County. Frenchburg is the county seat of Menifee County which is located in eastern Kentucky in the Appalachian foothills of the eastern coalfield region. The project is approximately 60 miles east-southeast of Lexington in a part of the Commonwealth commonly referred to as the "Gateway" area.

The section of highway under study includes approximately 3.3 miles of U.S. 460. The project begins approximately 1.5 miles south-southeast of Frenchburg and continues east then southeast to a point approximately 2,100 feet east of the small community of Mariba. The western terminus of the project would be contiguous with a section of U.S. 460 out of Frenchburg that was improved in the mid 1980s (Item #10-237), while the eastern terminus would coincide with the Mariba to Denniston section of U.S. 460 under construction (Item #10-277).

In the project area, existing U.S. 460 is a narrow two-lane road that generally follows a ridge top. The selected Build Alternate would replace the existing two lanes with a two-lane roadway on or near existing U.S. 460. Improvements would include wider lanes, shoulders, ditches, and turn lanes as appropriate. The alignment would be adjusted to correct existing horizontal curve deficiencies. As part of the project, portions of existing U.S. 460 will be retained to provide access for residents residing along the existing road. No bridges will be constructed in this project. Since U.S. 460 is located on the ridge that separates the Red River drainage to the south from the Licking River drainage to the north, only small headruns exist in the project.

The East Fork Indian Creek is classified as a "special use water" by the Kentucky Division of Water, and more specifically an "outstanding state resource water and cold water aquatic habitat" as shown in 401 KAR 10:026 Section 5(3). The Gladie Creek (Basin) is classified as a "special use water" by the Kentucky Division of Water, and more specifically a "cold water aquatic habitat" as shown in 401 KAR 10:026 Section 5(3). Due to this classification, special consideration during design, construction, and post-construction have and will be observed. These considerations include but, are not limited to, the use of enhanced best management practices (BMPs) during construction and installation of enhanced BMPs for post-construction water quality measures.

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Widening and Re-aligning US 460 in Menifee County

Environmental Considerations

This section describes the activities that KYTC has implemented to address environmental concerns.

SPECIAL CONSIDERATIONS

Environmentally Sensitive Features

The environmentally sensitive feature for this project is the East Fork of Indian Creek of Red River, as well as Mariba Fork of Gladie Creek (Basin). East Fork of Indian Creek of Red River is classified as an "Outstanding State Resource Water" and "Cold Water Aquatic Habitat". Gladie Creek (Basin) is classified as a "Cold Water Aquatic Habitat."

Pollutants of Concern

During construction the main pollutant of concern for this project is sediment laden discharge occurring during the construction of the roadway improvements. During the construction of this project BMPs will be implemented to minimize sediment from the construction site. The post-construction pollutants of concern will likely be increases in surface runoff discharging to cold water aquatic habitat designated watersheds. This will be addressed through enhanced post-construction BMPs such as turf reinforcement mats to allow vegetation in areas otherwise treated with hard armoring techniques. Sediment, a secondary pollutant of concern for post-construction, will be intercepted through vegetated channels and other enhanced BMPs.

Threatened and Endangered Aquatic Species

According to the Kentucky Department of Fish and Wildlife Resources, there are no threatened or endangered aquatic species within this project area.

Threatened and Endangered Land-based Species

Gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), Virginia big-eared bat (*Corynorhinus townsendii virginianus*), and White-haired goldenrod (*Solidago albopilosa*) are listed on the US Fish and Wildlife Service endangered species list within this project area.

EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) SWPPP

The following site specific EPSC BMPs have been developed specifically for this project. These BMPs are over and above the standard EPSC BMPs, as indicated in the table below. The remainder of the EPSC BMPs will be represented in KYTC's SWPPP, which is jointly developed

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Widening and Re-aligning US 460 in Menifee County

with the resident engineer and the Contractor and incorporates the Contractor’s means and methods. These site-specific BMPs are also included in the EPSC BMP Template.

The following enhanced construction BMPs are proposed to be used on this project:

- Turf reinforcement mats: TRMs will be used in areas of concentrated flow within the project limits.
- Enhanced Silt Check: Channels will be used in areas of concentrated flow within areas with steep grade associated with the Outstanding State Resource Waters outfall. Enhanced silt traps will be used to control grade, reduce flow velocity, aerate waters and capture silt from headwaters before reaching the East Fork of Indian Creek or Mariba Fork or the Gladie Creek (Basin).
- Bank stabilization with live stakes: In areas where turf reinforcement mats are used live stakes will be placed in order to provide temporary stabilization of the banks outside of the water path as well as give long-term shading for these areas to help in temperature control. The main vegetation selection criteria were plant height and whether the stakes were native species.

Area to be Treated (Outfall #)	Standard Practice	Enhanced/Site Specific BMP
#8A, #8B, #8C, #8D - Station 148+00 (Bridge over East Fork of Indian Creek)	Rock lined drainage channels	Enhanced Silt Check, Turf Reinforcement Matting, Live Stake Plantings
#17 - Station 43+00 (Headwaters of Mariba Fork o Gladie Creek Basin)	Rock lined channel	Turf Reinforcement Matting, Live Stake Plantings
#18 - Station 245+00 (Mariba Fork of Gladie Creek Basin)	Rock lined channel	Turf Reinforcement Matting, Live Stake Plantings
#19 - Station 247+00 (Unnamed tributary to Mariba Fork of Gladie Creek Basin)	Rock lined channel	Turf Reinforcement Matting, Live Stake Plantings

Design Storms

EPSC BMPs will be designed to properly function at a 2-year/24-hour design storm, except for the sedimentation basins.

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Widening and Re-aligning US 460 in Menifee County

Enhanced/Site Specific BMPs

The following enhanced/site specific EPSC BMPs will be utilized on this project. These BMPs include both structural and non-structural measures. The structural BMPs are shown on the Plan drawings, contained in Attachment A. All standard BMPs are in accordance with Sections 212 (Erosion Control) and 213 (Water Pollution Control) of KYTC's 2008 Standard Specifications.

Structural

- Minimal riprap during construction will be utilized to address scouring at pipe outlets.

Non-structural

- Construction phasing shall be such that the total disturbance area at any given time is minimized. This will include disturbing only those areas necessary for construction, as well as minimizing the disturbed area by temporarily or permanently stabilizing cut and fill areas when construction activity is not immediately anticipated.
- When possible, flows will be diverted around disturbed areas to minimize stormwater contact with non-stabilized areas.
- Appropriate stock of straw ECB or straw shall be available onsite at all times.
- Straw ECB or seeding mulched with blown straw followed by crimping shall be applied within seven days of the cessation of the land disturbing activity. If blown straw is used, the blower and crimping equipment shall be kept onsite during land disturbing activities. Critical areas, or areas within 25 feet of the top of the bank, will be stabilized within 24 hours of disturbing.
- Disturbed areas shall be stabilized prior to a forecasted rain event, and within 24 hours after a storm event of 0.5 inches or greater
- EPSC/SWPPP inspections will be performed at least twice a week.
- Sediment control BMPs will be maintained when the sediment reaches 1/3 the depth of the BMP.

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Antidegradation

PUBLIC NOTICE

The Kentucky Division of Water will publicly advertise the draft permit and allow a public comment period of at least thirty (30) days. The notice shall be published in a daily or weekly newspaper within the area affected by the activity.

ALTERNATIVES EVALUATION

Three alternatives were evaluated during a NEPA study for this project. The three alternatives were:

- Alternative 1 begins approx 276 feet east of McCausey Road (KY 3338) intersection. It heads easterly for 0.5 miles before leaving the existing roadway and heading cross-country on a new alignment. It continues cross-country for 0.6 miles before intersecting the existing facility. The alignment then curves southward, replacing the existing road for 0.5 miles, and then paralleling it for another 0.5 miles. It has a total length of 3.3 miles and a Level of service of "C". Modifications to existing intersections with KY 77 and KY 1242 are required. This alternative would displace an estimated 11 households and no less than 5 business relocations.
- Alternative 2 begins at the same location as Alternative 1 and continues easterly for approximately 0.5 miles before curving southward cross-country. It continues cross-country, paralleling the existing roadway for approximately 1.5 miles before intersecting existing KY 77. It then continues southward an additional 0.8 miles before curving eastward and joining the previously designed section of US 460 just east of Mariba. The total length would be 3.3 miles, and the Level of service would be "C". Relocation of the existing intersection with KY 77 would be required. Access between KY 1242 and existing US 460 would remain unchanged. This alternative would displace an estimated 11 households, 1 business relocation, and relocation of one church and cemetery.
- No Build Alternative. Due to the many vertical and horizontal deficiencies, poor sight distance, lack of passing zones and average operating speeds less than 50 mph, all of which would continue to hamper motor vehicle transportation, this was not a feasible option.

Alternative 2 was chosen because: (1) it was the easiest to construct and interferes less with the existing roadway, (2) had the lower cost, (3) had the fewest business relocations, and (4) had no Resource Conservation and Recovery Act (RCRA) listed sites.

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Widening and Re-aligning US 460 in Menifee County

POST-CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN

Post-construction BMPs are designed to provide long-term stormwater management to efficiently and effectively treat stormwater runoff from project sites. Post-construction BMPs treat stormwater runoff and reduce peak flows when compared to standard treatment practices. Typically, post-construction BMPs are designed to manage the first flush of runoff, meaning that it will treat the initial concentration of contaminated runoff. The pollutant concentration in the first flush is typically greater than subsequent runoff volumes in the same wet weather event. Post-construction BMPs may be designed per water quality and/or water quantity requirements.

Post-construction SWPPP

The following post-construction BMPs are proposed to be used on this project:

- Turf reinforcement mats (TRMs) will be used in areas of concentrated flow in place of riprap within the project limits. TRMs once fully vegetated will provide long-term channel stability and allow decreases in surface runoff temperatures when compared to hard channel armoring. Due to the topography within this project site standard TRMs may not be appropriate in all areas. For areas greater than a 3:1 or areas with extreme velocities or flowrates, an appropriate TRM will need to be used.
- Enhanced silt trap: Enhanced silt traps will be used in areas where concentrated flows make an abrupt change in flow direction along with an abrupt grade change. Enhanced silt traps will be used to control grade, reduce flow velocity, and capture silt from headwaters before reaching the East Fork of Indian Creek of Red River or Mariba Fork of Gladie Creek (Basin).
- Live stakes will be used for bank stabilization and to provide shade, which will promote cool water at outlets along OSRWs.

These BMPs are over and above the standard post-construction BMPs, as indicated in the following table.

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Area to be Treated (Outfall #)	Standard Practice	Enhanced/Site Specific BMP
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#19 - Station 247+00 (Unnamed tributary to Mariba Fork of Gladie Creek Basin)	Rock lined channel	Turf Reinforcement Matting, Live Stake Plantings

Live Stakes

The following plant species can be used as live stakes for this project:

Common Name	Species Name	Stems per acre	Frequency (%)
Silky Dogwood	<i>Cornus amomum</i>	1,200	25
Black Willow	<i>Salix nigra</i>	1,200	25
Silky Willow	<i>Salix sericea</i>	1,200	25
Elderberry	<i>Sambucus canadensis</i>	1,200	25
Total		4,800	100

The live stakes should be 18 to 24 inches long and planted such that the species are intermixed, not clumped. Planting of live stakes should start at the top of stream bank and extend out 9 feet on both sides of the stream. Live stakes should be planted in a random arrangement (not rows), maintaining a maximum of 3 feet spacing. Ideal planting time for live stakes is typically late winter, in February or March. This maximizes survivability of the plantings.

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Widening and Re-aligning US 460 in Menifee County

Estimate of Additional BMP Quantities

The following table is an estimate of the quantities of post-construction BMPs needed on this project. The design engineer will finalize all quantities based on final design contours, runoff velocities, and flowrates.

BMP	Unit	Quantity
Turf Reinforcement Mat (TRM)	Square Yard	6698
Enhanced Silt Checks	Each	4

Effort to Minimize Discharges

During the design of this project, consideration was given to reducing the number of discharge locations. However, topography is the determining factor as well as multiple watersheds. Where possible, sheet flow was promoted.

Evaluation of Alternative Discharge Locations

The project was evaluated for alternative discharge locations. Due to the topography of the site there were no other viable alternatives.

Alternative Post-Construction BMPs

Various post-construction BMPs were considered for this project. BMPs selected were chosen because of the cold water aquatic habitat classifications, soil type, anticipated shear stresses in the channel, topography, and the amount of flow to manage.

ASSESSMENT OF JUSTIFIABLE RISK

This project will widen and realign a section of US 460, eliminating substandard roadway conditions of narrow lanes as well as horizontal and vertical curve deficiencies along the section.

SOCIOECONOMIC DEMONSTRATION

The following questions were addressed to demonstrate the socioeconomic considerations for this project.

Describe the effect of the project on the employment of the area. The proposed project will allow the traveling public and local residents safer and more efficient access to employment opportunities within the project area by reconstruction and straightening of the roadway. The

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project will also provide opportunities for local residents to realize economic benefit by employment opportunities during the construction and maintenance of the facility. Local and regional businesses will also have economic benefits during construction and maintenance of the facility.

Describe how the project will increase or avoid the decrease of area employment. Due to the nature of employment in the area, the proposed project will likely have a negligible long term effect on employment but will allow area residents to maintain by allowing the traveling public to continue to maintain and enjoy better access to employment opportunities in the region.

Describe the project’s industrial or commercial benefits to the community. The project will benefit the community both short-term and long –term. Short-term benefits will be realized through employment during the construction phase of the project. Local and regional businesses may also enjoy economic benefits from contractors and their employees purchasing materials, goods, and services in the project area. The community and regions may experience long-term benefits from the project as maintenance, bridge inspection and other activities associated with the maintenance of the facility require materials, goods, and services to be purchased. In addition, the improved facility will offer greater potential for economic growth as the improved facility will allow quicker travel times and safer truck passage.

Describe any other economic or social benefits the project will have to the community. The improved facility will provide a safer and more efficient travel corridor for local residents and the traveling public in general.

How many and in what manner will households be economically or socially impacted? There will be an anticipated 20-30 jobs that will be developed during the construction and maintenance of the facility. Therefore, 20-30 households will economically benefited either short or long-term.

	YES	NO
1. Will this project be likely to change median household income in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Will this project likely change the market value of taxable property in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Will this project increase revenues in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Will any public buildings be affected by this project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

US 460 RECONSTRUCTION

MENIFEE COUNTY

KYTC ITEM NO. 10-0117.01

Supplemental Information

The KYTC project consists of reconstructing US 460 from KY-3338 south of Frenchburg to 0.8 miles south of KY-1242 at Mariba.

The Gladie Creek (Basin) is classified as a “special use water” by the Kentucky Division of Water, and more specifically a “cold water aquatic habitat” as shown in 401 KAR 10:026 Section 5(3). Due to this classification, special consideration during design, construction, and post-construction have and will be observed. These considerations include but, are not limited to, the use of enhanced best management practices (BMPs) during construction and installation of enhanced BMPs for post-construction water quality measures.

- *The channel relocation(s) of unnamed tributaries to Mariba Fork (Gladie Creek Basin) will be lined with turf reinforcement matting (TRM) throughout. In areas where the slope is not conducive to TRM, rock will be used to ensure stability.*
- *Efforts will be taken to ensure the channel relocation(s) of unnamed tributaries to Mariba Fork will maintain connection with the water table.*
- *“Do not mow” signs and/or monuments will be placed periodically throughout the channel relocation(s) of unnamed tributaries to Mariba Fork.*
- *Construction phasing shall be such that the total disturbance area at any given time is minimized. This will include disturbing only those areas necessary for construction, as well as minimizing the disturbed area by temporarily or permanently stabilizing cut and fills areas when construction activity is not immediately anticipated.*
- *When possible, flows will be diverted around disturbed areas to minimize stormwater contact with non-stabilized areas.*
- *Appropriate stock of straw ECB or straw shall be available onsite at all times.*
- *Straw ECB or seeding mulched with blown straw followed by crimping shall be applied within seven days of the cessation of the land disturbing activity. If blown straw is used, the blower and crimping equipment shall be kept onsite during land disturbing*

activities. Critical areas, or areas within 25 feet of the top of the bank, will be stabilized within 24 hours of disturbing.

- *Disturbed areas shall be stabilized prior to a forecasted rain event, and within 24 hours after a storm event of 0.5 inches or greater*
- *Sediment control BMPs will be maintained when the sediment reaches 1/3 the depth of the BMP.*