

**I-66 CORRIDOR STUDY
WESTERN KENTUCKY TO MISSOURI
BALLARD / McCRACKEN COUNTY - ITEM # 1-23.00**

APPENDIX 10 – RESOURCE AGENCY CORRESPONDENCE

Prepared for

Kentucky Transportation Cabinet (KYTC) – Division of Planning

Kentucky Transportation Cabinet (KYTC) – District 1



Missouri Department of Transportation (MoDOT)



Prepared by

Parsons Brinckerhoff Quade & Douglas, Inc.



In Association With:

Qk4

Third Rock Consultants, LLC

Cultural Resource Analysts, Inc.

Fuller, Mossbarger, Scott and May Engineers, Inc.

March 2005

The following documents depict the various correspondence and information exchange between and among the KYTC, the Consultant Team and various resource agencies at the state and federal levels.

The correspondences are actual electronic copies of letters, memos, reports, and other records received during the project. These various pieces of information helped shape the decisions that ultimately affected the outcome of the project. Accuracy of information as well as opinions expressed is the responsibility of the issuing agencies.



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Long Distance Trails Group Office - Santa Fe

P.O. Box 728

Santa Fe, New Mexico 87504-0728

D18(TRTE)

January 6, 2002

Ms. Annette Coffey
Division of Planning (A-2)
Kentucky Transportation Cabinet
125 Holmes St.
Frankfort, KY 40622

Dear Ms. Coffey:

Thank you for your letter of January 25, 2002, regarding the initiation of a planning study for the proposed Interstate 66 Highway project from McCracken County, Kentucky to Mississippi County, Missouri (KYTC Item #1-23.00). As the National Park Service office responsible for the administration of the Trail of Tears National Historic Trail, we are grateful to the Kentucky Transportation Cabinet for taking into consideration the potential impacts that this highway project might have on the historic trail and its associated resources.

Two variant routes traveled by the Cherokee during their forced migration in 1838-1839 have been designated as the Trail of Tears National Historic Trail. The first, the Water Route, follows the course of the Tennessee River from the Chattanooga area to its confluence with the Ohio River, down that river to the course of the Mississippi River, and then up the Arkansas River to Fort Smith. The second variant, known as the Northern Route, began at the Cherokee Agency, near present day Charleston, Tennessee. This was an overland course that passed through the cities of Nashville, Tennessee; Hopkinsville, Kentucky; Jonesboro, Illinois; Rolla and Springfield, Missouri; Fayetteville, Arkansas; and Tahlequah, Oklahoma. The Trail of Tears National Historic Trail Auto Tour Route closely follows the Northern Route. In addition to these two primary routes, there are several variants that are currently under study for possible designation as part of the National Historic Trail. Among these is a unique route traveled by the John Benge detachment, which left the Wills Valley near Ft. Payne, Alabama, and ran south of the Northern Route, passing through Tennessee, far southwestern Kentucky, southern Missouri, northern Arkansas, and ending near Tahlequah. To assist in your planning process, we've included maps that will give you a better understanding of the route variants through Kentucky.

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The proposed Highway project is in the general area of the three trail variants mentioned above. The Water Route follows the main channel of the Mississippi River in western Kentucky. Currently, we are working with the U.S. Army Corps of Engineers to identify the historic river channel, which is likely marked today by old river remnants or oxbow lakes that may be eligible for the National Register of Historic Places based on their association to the Trail of Tears. It appears that the Northern Route is not within the 50-mile corridor you've identified in the Public Notice. Nonetheless, there are several key resources along the route in Kentucky that have either been certified by the National Park Service as a trail component, such as the Whitepath and Fly Smith Graves in Hopkinsville, or may be eligible for the National Register, such as Mantle Rock in Livingston County. The route traveled by the John Benge detachment may enter the 50-mile project corridor. This route is still under study but we have identified it tentatively as crossing Fulton, Hickman, and Carlisle Counties before crossing the Mississippi River at the Iron Banks near Columbus, and traversing Mississippi County, Missouri. Although we have not surveyed this section of the trail, our experience leads us to believe that there are probably extant trail segments in this part of Kentucky that are eligible for the National Register. There is strong public interest in support of adding the Benge Route to the National Historic Trail.

Our principle concerns are directed towards preserving and protecting all historic resources associated with the Trail of Tears, and creating appropriate public recreation and education opportunities along the trail. At this early stage in your planning process, it is impossible to say if and how trail resources will be impacted by this project, but we request that you continue to consider us an interested party as you proceed. We also would like to review any cultural resource reports that are produced associated with this project, and that any archeological testing or historical investigations account for the possibility of Trail of Tears-associated resources.

Feel free to direct any questions or requests for additional information to NPS Historian Aaron Mahr in this office at (505) 988-6736, or at aaron_mahr@nps.gov.

Sincerely,



David M. Gaines
Superintendent

Enclosures

The Trail Today

The story did not end with the arrival of the Cherokee people in Oklahoma. Despite this tragic event, they built successful communities that exist today. Old traces, historic buildings, and other sites are being preserved to commemorate the sorrowful journey.

A variety of local, state, and national efforts have commenced to preserve and interpret Trail resources. A growing awareness of this important story—and those of other removed tribes—has stimulated interest to nationally recognize this chapter in our Nation's past. The Trail of Tears tells of the Cherokee's ordeal—but many tribes can tell similar stories.

In 1987, Congress acknowledged the significance of the Trail by establishing the Trail of Tears National Historic Trail. The National Park Service administers the Trail in cooperation with federal, state, and local agencies; the Cherokee Nation and the Eastern Band of Cherokee Indians; interested groups; and private landowners.

The National Park Service coordinates activities, offering technical and limited financial assistance toward preservation, development, and commemoration of the Trail. Management of Trail resources remains with landowners; non-profit groups; and federal, state, and local agencies. Activities include marking an auto tour route which closely parallels or follows the historical land routes with the official Trail marker; marking the Water Route; historical research; resource protection; development of Trail brochures and other publications, including this interim brochure; and production of exhibits and an interpretive film.

We Need Your Help

The Trail of Tears National Historic Trail will only be successful with the hard work and dedication of public officials, citizen volunteers, and private landowners who want to preserve the historic resources of the Trail and make its story known. The Trail can aid community efforts in historic preservation and interpretation, trails and greenways, and other public recreation efforts.

Many organizations are helping to plan and develop the National Historic Trail. The Trail of Tears Association, a non-profit organization formed in 1993 to promote public awareness and appreciation of the Trail, works closely with the National Park Service. Its address is: Trail of Tears Association, 1100 North University, Suite 133, Little Rock, Arkansas 72207. 501/666-9032.

You can help with the Trail of Tears National Historic Trail by joining or supporting the work of the Trail of Tears Association, state and local historical societies, and other groups that promote or assist with the National Historic Trail. Landowners and site managers can pursue certification of their sites or Trail segments to further public use and protection of Trail resources. Permanent protection of these resources can be achieved by donation of lands or easements to land trusts or other appropriate groups. Financial contributions can support Trail programs. Donations of money, land, or easements may qualify as tax-deductible gifts. For more information, contact the National Park Service at the address listed.

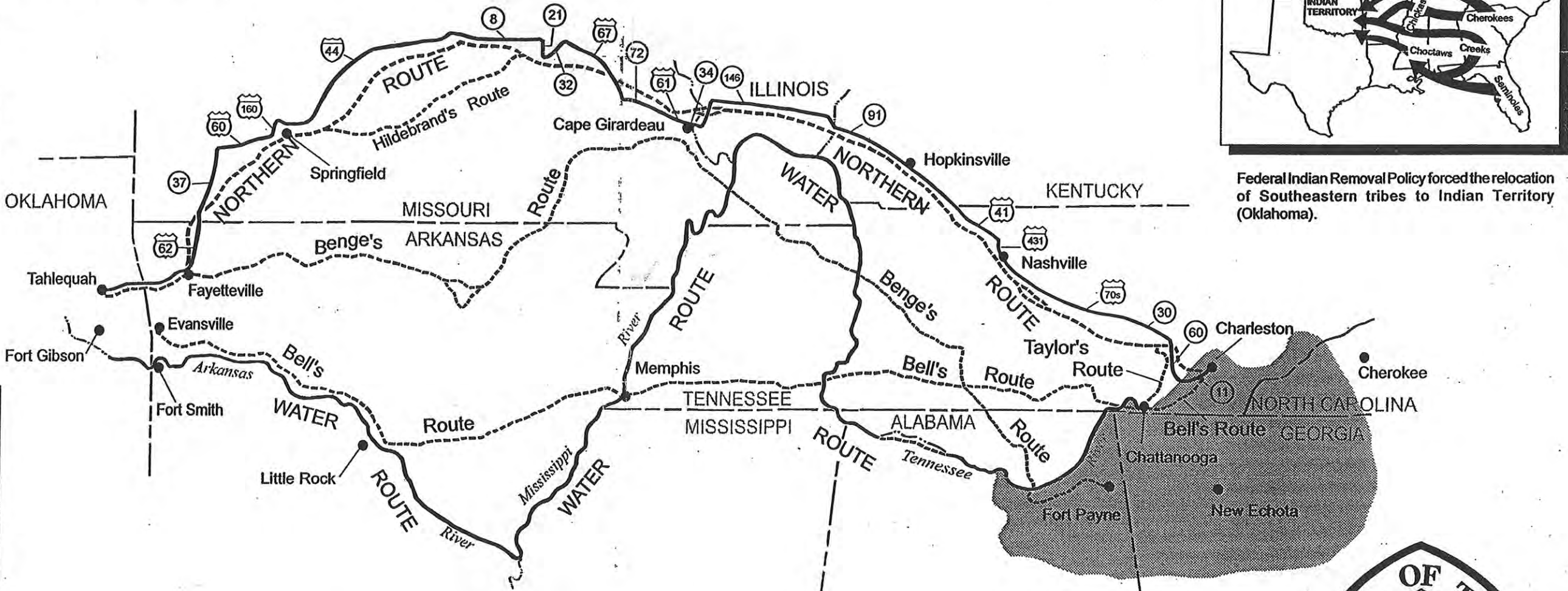
Traveling the Trail

Today, you can contemplate the Trail of Tears as you visit sites along the Trail of Tears National Historic Trail. We want to help you have a safe and meaningful visit.

Remember that You're a Guest: Please respect your hosts' hospitality when you visit their certified sites. Leave everything as you find it. Summon owners only in emergencies. They retain the right to ask you to leave at any time. Obey signs—use designated parking areas—and limit your stay to the time necessary to appreciate the historic site.

Protect the Trail: Respect the features of the sites that you visit. Don't use metal-detectors or dig at sites—collect artifacts, or remove anything. Some sites contain burials. Please respect these sacred places.

Stay Safe: Many parts of the historic routes are on road rights-of-way. Remain alert, and aware of your children's and pets' locations. Beware of traffic. Know where your nearest emergency help can be found.



Federal Indian Removal Policy forced the relocation of Southeastern tribes to Indian Territory (Oklahoma).



Unauthorized use of the official Trail of Tears National Historic Trail logo (TM) is prohibited.

Auto Tour Route

Auto tour route highways, closely following the historic land routes, are marked with the official Trail marker to aid you in visiting Trail sites. Contact the National Park Service for more information.

Stop at local chambers of commerce and information centers to learn about Trail-related sites and other interesting features and activities. Many Trail sites lack amenities; plan ahead—use public restrooms and other facilities before you visit sites.

Certified Trail Sites

Non-federal historic sites, Trail segments, and interpretive facilities become part of the Trail of Tears National Historic Trail through certification—a voluntary process in which an owner or manager agrees to adhere to National Park Service standards for resource preservation and public enjoyment. Look for the official Trail marker at all certified locations. Updated lists of certified sites and facilities are issued periodically by the National Park Service's Long Distance Trails Group Office - Santa Fe.

Non-certified Sites and Facilities

State, county, and city parks along the Trail route preserve Trail resources. Although not yet certified, they are open for public use.

Some sites on the Trail of Tears are privately owned, while many sites are on or along existing highways. Consult guidebooks and ask permission before going on private land.

Federal Sites

The historic Trail route passes through and by lands now managed by several federal agencies, such as the USDA Forest Service, the U.S. Army Corps of Engineers, the Tennessee Valley Authority, and the National Park Service. Some units of these agencies may provide interpretive information related to the Trail of Tears. Check locally, or consult the National Park Service

FISH & WILDLIFE COMMISSION

Mike Boatwright, Paducah
Tom Baker, Bowling Green
Allen K. Gailor, Louisville
Ron Southall, Elizabethtown
Dr. James R. Rich, Taylor Mill, Chairman
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COMMONWEALTH OF KENTUCKY
DEPARTMENT OF FISH AND WILDLIFE RESOURCES
C. THOMAS BENNETT, COMMISSIONER

January 20, 2002

Ms. Annette Coffey, P.E., Director
Division of Planning
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40601

RE: Information on potential I-66 corridors in Marshall,
McCracken, and Ballard counties, Kentucky.

Dear Ms. Coffey:

Members of my staff have reviewed the above-referenced information. Accordingly, we offer the following comments.

Members of my staff have participated in several meetings held by KTC regarding this project. They have found these meetings to be both informative and productive. I trust that KTC has also benefited from their attendance.

As members of my staff have noted in these meetings, our main area of concern is how any selected alternative will impact the area's fish and wildlife resources, their habitats, and sportsmen opportunities. In particular, we are concerned about impacts to wetland habitat, which is one of the most productive fish and wildlife habitats.

From the information you provided, it appears that any of the potential could have some impacts to those resources. However, corridor 8 could have significant impacts to wetland habitats and to properties owned by the Kentucky Department of Fish and Wildlife Resources. These lands provide significant fish and wildlife habitats and resources and are significant recreational lands for the general public.

We look forward to working with you and other members of your agency on this project in the future. If you should have any questions regarding our comments, please contact Mr. Wayne L. Davis, Environmental Section Chief, at 502/564-7109, ext. 365.



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DIV OF PLANNING

U.S. Department
of Transportation

**United States
Coast Guard**



Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314) 539-3900, Ext 382
FAX: (314) 539-3755

16591.1

14 February 2002

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

Subj: PROPOSED INTERSTATE HIGHWAY 66 FROM I-24 IN KENTUCKY TO I-57
IN MISSOURI

Dear Ms. Coffey:

This is in reply to your letter of 25 January 2002, concerning the proposed new construction of Interstate Highway 66.

The General Bridge Act of 1946 requires that the location and plans for bridges over navigable waters of the United States be approved by the Commandant, U. S. Coast Guard prior to commencing construction. Depending on the route selected, the proposed Interstate 66 would cross the Ohio River, Upper Mississippi River or the Lower Mississippi River. These rivers are considered to be navigable waterways of the United States for bridge administration purposes at the bridge site.

Applications for bridge permits should be addressed to Commander (obr), Eighth Coast Guard District, 1222 Spruce Street, St. Louis, Missouri 63103-2832, Attention: Bridge Branch. The application must be supported by sufficient information to permit a thorough assessment of the impact of the bridge and its immediate approaches on the environment. We recommend that the impacts of procedures for constructing cofferdams, sand islands, and falsework bents, etc., that will be employed to build the bridge be discussed. The Environmental Assessment (EA) should also contain data on the number, size and types of vessels currently using the waterway. This information should be compared with past and projected future trends on the use of the waterway.

Please advise if the project will be funded by the Federal Highway Administration or entirely with state funds. This will enable us to determine which agency is the lead federal agency for satisfying the requirements of National Environmental Policy Act (NEPA).

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14 February 2002

Subj: PROPOSED INTERSTATE HIGHWAY 66 FROM I-24 IN ~~KENTUCKY~~ TO I-57
IN MISSOURI

We appreciate the opportunity to comment on the project in this early stage. You can contact Mr. David Orzechowski at (314) 539-3900, extension 382 to discuss this project.

Sincerely,

A handwritten signature in dark ink, appearing to read 'R. K. Wiebusch', is written over a rectangular stamp area.

~~ROGER K. WIEBUSCH~~

Bridge Administrator

By direction of the District Commander

C-17 Geotech
BLEVINS

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DIVISION OF PLANNING

A-2
Annette Coffey

P-7-02
FEB 19 2 04 PM '02

MEMORANDUM

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

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

BY: Michael Blevins P.G. *MB*
Geotechnical Branch

DATE: February 18, 2002

SUBJECT: Marshall, McCracken and Ballard Counties
I-66 (I-24 to I-57 Missouri)
Item 01-23.00
Mars # 6878901D
Intermediate Planning Study

At your request, personnel from the Geotechnical Branch have completed a preliminary office review of the subject project.

The Geologic Formations within the project area are part of the Quaternary, Tertiary and Cretaceous Systems. The Quaternary System consists of alluvium, loess and continental deposits. The alluvium contains clay, silt, sand and gravel. Loess deposits are primarily composed of silt and can be very sandy at the bottom of the formation. Continental deposits consist of gravel, sand, silt and clay with some chert pebbles.

The Tertiary System includes Formations of the Jackson, Claiborne, Wilcox Porters Creek Clay and the Clayton & McNairy. The Jackson and Claiborne Formations contain sand, silt, clay, and clay breccia, and the Claiborne also contains a few lignite seams. The Wilcox Formation contains sand, silt and clay. The Porters Creek Clay consist of clay and sand. The Clayton and McNairy Formations are found in the Cretaceous System and consist of sand, clay and silt deposits. The formations can be located on the attached geologic map.

The geotechnical considerations are as follows:

Concerns associated with these formations include wet embankment foundations, unstable subgrades, highly erodible and moisture sensitive soils. Wet embankment foundations may be addressed by using type III filter fabric and 1-3 feet of aggregate for stabilization. Unstable subgrades may be improved by using type IV filter fabric and aggregate or cement stabilization. Extra handling of the materials may required by the contractor to meet the proper moisture contents for compaction purposes. Embankment slopes will likely be 2:1 or flatter.

Generally, materials encountered in these formations when exposed in cut sections are highly erodible and may require erosion control methods such as rock and fabric or an erosion control blanket to minimize erosion of the cut face. Cut slopes for this project will likely be 2:1.

The Porters Creek Clay outcrops in and around the area of Paducah. The Branch prefers an alignment and/or grade that would avoid having this formation exposed in a cut section or directly below subgrades. The formation is extremely moisture sensitive and highly erodible and will cause unstable subgrades and cuts. The location of the Porters Creek Clay may be found on the attached Geologic Map.

Alluvium, loess and continental deposits cover much of the area that any alignment will traverse. Positive drainage is essential in maintaining stable foundations and subgrades.

Any bridge foundations will most likely involve the use of drilled shafts and scour at pier and abutment locations should be considered. The project is located within the seismic zone 3, an area where heavy earthquake damage could occur.

If there are any questions, please advise.

FISH & WILDLIFE COMMISSION

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Tom Baker, Bowling Green, Chairman
Allen K. Gailor, Louisville
Charles E. Bale, Hodgenville
Dr. James R. Rich, Taylor Mill
Ben Frank Brown, Richmond
Doug Hensley, Hazard
Dr. Robert C. Webb, Grayson
David H. Godby, Somerset



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF FISH AND WILDLIFE RESOURCES
C. THOMAS BENNETT, COMMISSIONER

February 18, 2002

Mr. Alex Barber
Commissioner's Office
Department for Environmental Protection
14 Reilly Road
Frankfort, KY 40601

RE: Project Number: SERO2002-11
Early Study for possible construction of segment
of Interstate Highway 66 (I-66) in Marshall,
McCracken, and/or Ballard Counties in
Kentucky and Mississippi County in Missouri
from I-24 in northwestern Marshall County or
McCracken County in Kentucky to I-57 in
Mississippi County in Missouri - KY
Transportation Cabinet

Dear Mr. Barber:

Members of my staff have reviewed the above-referenced notice. Accordingly, we offer the following comments and recommendations.

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has concerns how the proposed project may impact the local fish and wildlife resources, unique habitats (i.e. wetlands), threatened and endangered species, state wildlife management areas and sportsmen opportunities. Any project evaluation should address the potential for impacts to each of these.

The area that is being examined for this project has significant fish and wildlife resources, wetland habitat, endangered species, and sportsmen opportunities. All of which could be impacted by the development of this project. Additionally, KDFWR owns several tracts of land in Ballard County, which could be impacted by this project, depending upon the alignment of the highway.

We are attaching a list of threatened and endangered species that have been found in Ballard, Marshall, and McCracken counties and may occur within the proposed project area. Please be aware that our Kentucky Fish and Wildlife Information System (<http://www.kfwis.state.ky.us/>) is a dynamic system and this data only represents our current knowledge.

Members of my staff are available to discuss our concerns regarding this project and answer any questions you or your staff may have. The point of contact for KDFWR is Wayne L. Davis, Environmental Section Chief (502/564-7109, ext. 365).



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Page Two
Mr. Barber
February 18, 2002

We appreciate the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Tom Bennett", with a long horizontal flourish extending to the right.

C. Tom Bennett
Commissioner

CTB/WLD/kh

cc: Edwin F. Crowell, Asst. Director, Division of Fisheries
Paul W. Rister, Western Fishery District Biologist
Pat Brandon, Regional Supervisor, Purchase Wildlife Region
Lee A. Barclay, USFWS, Cookeville, TN
Environmental Section Files

Kentucky Threatened & Endangered Species Reported from Marshall County

Common Name	Scientific Name	Status Code	Re
American brook lamprey	Lampetra appendix (Dekay, 1842)	223,602,999	Re
Alabama shad	Alosa alabamiae (Jordan and Evermann, 1896)	223,601,999	Re
central mudminnow	Umbra limi (Kirtland, 1840)	223,602,999	Re
dollar sunfish	Lepomis marginatus (Holbrook, 1855)	223,601	Re
Johnny darter	Etheostoma nigrum susanae (Rafinesque, 1820)	223,106,302,601,999	Re
cypress darter	Etheostoma proeliare (Hay, 1881)	223,302,602,999	Re
blue-winged teal	Anas discors Linnaeus, 1766	121,601,221	Re
hooded merganser	Lophodytes cucullatus (Linnaeus, 1758)	121,601,221	Re
fanshell	Cyprogenia stegaria (Rafinesque, 1820)	101,601,223	Re
pink mucket	Lampsilis abrupta (Say, 1831)	601,101,223	Re
pocketbook	Lampsilis ovata (Say, 1817)	601,223	Re
ring pink	Obovaria retusa (Lamarck, 1819)	101,601,223	Re
orange-foot pimpleback	Plethobasus cooperianus (I. Lea, 1834)	101,601,223	Re
pyramid pigtoe	Pleurobema pyramidatum (I. Lea, 1840)	107,601,223,106	Re
rabbitsfoot (subsp: cylindrica)	Quadrula cylindrica cylindrica (Say, 1817)	602,223,106	Re

KFWIS HOME

Species Status Codes

<u>Code</u>	<u>Status</u>	<u>Description</u>
000	Unclassified	(null)
101	Federal Endangered.	Those species in danger of extinction throughout all or a significant portion of their range.
102	Federal Threatened.	Those species that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range.
103	Federal proposed: Endangered	(null)
104	Federal proposed: Threatened	(null)
105	Fed. status review: C1:	Substantial information is on hand to support the biological appropriateness of proposing to list.
106	Fed. status review: C2:	Possibly appropriate to list, but inconclusive data at present
107	Fed. status review: C3:	Species is no longer receiving consideration.
108	Critical habitat determined	(null)
109	Federal candidate	(null)
111	Plan approved by Director	(null)
112	Draft plan received	(null)
113	Plan in preparation	(null)
114	Status unknown	(null)
115	Under notice of review	(null)
116	Federal delisted	(null)
117	Federal downlisted	(null)
121	Federal Migratory	(null)
122	Marine Mammal	(null)
131	EPA Indicator	(null)
142	USFS Indicator	(null)
201	KDFWR - State Endangered	(null)
202	KDFWR - State Threatened	(null)
203	KDFWR - State High Interest (null)	
204	KDFWR - State Proposed	(null)
205	KDFWR - State status undetermined	(null)
206	KDFWR - State downlisted	(null)
207	KDFWR - State delisted	(null)
210	Depleted:	Commercial species that are depressed from former abundance by over-harvesting.

Kentucky Threatened & Endangered Species Reported from Marshall County

Common Name	Scientific Name	Status Code	Re
American brook lamprey	Lampetra appendix (Dekay, 1842)	223,602,999	Re
Alabama shad	Alosa alabamiae (Jordan and Evermann, 1896)	223,601,999	Re
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dollar sunfish	Lepomis marginatus (Holbrook, 1855)	223,601	Re
Johnny darter	Etheostoma nigrum susanae (Rafinesque, 1820)	223,106,302,601,999	Re
cypress darter	Etheostoma proeliare (Hay, 1881)	223,302,602,999	Re
blue-winged teal	Anas discors Linnaeus, 1766	121,601,221	Re
hooded merganser	Lophodytes cucullatus (Linnaeus, 1758)	121,601,221	Re
fanshell	Cyprogenia stegaria (Rafinesque, 1820)	101,601,223	Re
pink mucket	Lampsilis abrupta (Say, 1831)	601,101,223	Re
pocketbook	Lampsilis ovata (Say, 1817)	601,223	Re
ring pink	Obovaria retusa (Lamarck, 1819)	101,601,223	Re
orange-foot pimpleback	Plethobasus cooperianus (I. Lea, 1834)	101,601,223	Re
pyramid pigtoe	Pleurobema pyramidatum (I. Lea, 1840)	107,601,223,106	Re
rabbitsfoot (subsp: cylindrica)	Quadrula cylindrica cylindrica (Say, 1817)	602,223,106	Re

KFWIS HOME

Species Status Codes

<u>Code</u>	<u>Status</u>	<u>Description</u>
000	Unclassified	(null)
101	Federal Endangered.	Those species in danger of extinction throughout all or a significant portion of their range.
102	Federal Threatened.	Those species that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range.
103	Federal proposed: Endangered	(null)
104	Federal proposed: Threatened	(null)
105	Fed. status review: C1:	Substantial information is on hand to support the biological appropriateness of proposing to list.
106	Fed. status review: C2:	Possibly appropriate to list, but inconclusive data at present
107	Fed. status review: C3:	Species is no longer receiving consideration.
108	Critical habitat determined	(null)
109	Federal candidate	(null)
111	Plan approved by Director	(null)
112	Draft plan received	(null)
113	Plan in preparation	(null)
114	Status unknown	(null)
115	Under notice of review	(null)
116	Federal delisted	(null)
117	Federal downlisted	(null)
121	Federal Migratory	(null)
122	Marine Mammal	(null)
131	EPA Indicator	(null)
142	USFS Indicator	(null)
201	KDFWR - State Endangered	(null)
202	KDFWR - State Threatened	(null)
203	KDFWR - State High Interest (null)	
204	KDFWR - State Proposed	(null)
205	KDFWR - State status undetermined	(null)
206	KDFWR - State downlisted	(null)
207	KDFWR - State delisted	(null)
210	Depleted:	Commercial species that are depressed from former abundance by over-harvesting.

221	Protected: Game. Consumptive Recreational.	A species that is harvested recreationally for flesh or trophy value and so designated by State or Federal law (does not include Game Fish, see Protected: Sport Fish, code 224). An open season has been designated.
222	Protected: Furbearer.	A species that is harvested for fur value and so designated by State or Federal law. An open season has been designated.
223	Protected: Nongame.	A species in which protection is provided because a closed season has been designated officially by State or Federal law, or in which method of take is regulated, but the species is not considered Game.
224	Protected: Sport Fish.	A species harvested recreationally for flesh or trophy value and so designated by State or Federal law. An open season has been designated.
225	Unprotected: Nongame.	No protection (e.g. limits) is provided for this species and may taken year-round except during a specified time depending on the year.
226	Non-consumptive recreational	(null)
301	Sensitive.	A species that is especially susceptible to environmental perturbation.
302	Biological Indicator.	A species whose occurrence indicates environmental quality (high or low quality).
401	Commercial.	A species that is commercially harvested for fur or flesh or similar value.
410	Pest	(null)
411	Pest/Nuisance	A species that is considered a pest or nuisance to humans but does not cause livestock or crop losses.
412	Pest/Livestock	A species that causes livestock losses.
413	Pest/Crops	A species that cause agricultural or crop losses.
501	Probably extirpated (or extinct)	The species has been reported in Kentucky historically but has probably been extirpated from Kentucky.
502	Accidental:	A species for which there may be too few records of the species in Kentucky to classify it to another status category.
503	Migrant	A species that moves between two areas a distance which is greater than its normal home range.
504	Anadromous Fish	(null)
505	Catadromous Fish	(null)
601	KSNPC - State endangered.	A species which is in danger of extirpation and/or extinction throughout all or a significant portion of its range in Kentucky.
602	KSNPC - State threatened.	A species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range in Kentucky.

603	KSNPC - State special concern.	A species that should be continually monitored because a) it exists in a limited geographic area, b) it may become threatened or endangered due to modification or destruction of habitat, c) certain characteristics or requirements make it especially vulnerable to specific pressures, or d) experienced researchers have identified other factors.
604	KSNPC - State proposed	(null)
605	KSNPC - State status undetermined.	A species that has been suggested as threatened or endangered or extirpated but insufficient information exists for assignment to Special Concern or Threatened or Endangered.
606	KSNPC - State downlisted	(null)
607	KSNPC - State delisted	(null)
608	KSNPC - Historic	(null)
609	KSNPC - Federal candidate	Animals that are not monitored in Kentucky by KSNPC because of their reported abundance.
701	Existing FMP exists	(null)
702	Pending FMP is currently in preparation	(null)
703	Other no FMP or PMP exists	(null)
704	Only PMP exists	(null)
711	Commercial/consumption	(null)
712	Commercial/industrial	(null)
713	Commercial/bait	(null)
714	Subsistence	(null)
715	International treaty	(null)
801	Economic Importance: High	(null)
802	Economic Importance: Moderate	(null)
803	Economic Importance: Low	(null)
999	See Comments significant portion of their range.	(null)

Kentucky Threatened & Endangered Species Reported from Ballard County

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status Code</u>	<u>Ref</u>
lake sturgeon	Acipenser fulvescens (Rafinesque, 1817)	223,106,601	Ref
alligator gar	Atractosteus spatula (Lacepede, 1803)	223,601,999	Ref
Alabama shad	Alosa alabamae (Jordan and Evermann, 1896)	223,601,999	Ref
cypress minnow	Hybognathus hayi (Jordan, 1885)	223,601,999	Ref
taillight shiner	Notropis maculatus (Hay, 1881)	223,602,999	Ref
inland siverside	Menidia beryllina (Cope, 1866)	223,602,999	Ref
spotted sunfish	Lepomis punctatus (Valenciennes, 1831)	223,602,999	Ref
cypress darter	Etheostoma proeliare (Hay, 1881)	223,302,602,999	Ref
great egret	Casmerodius albus (Linnaeus, 1758)	223,121,601	Ref
yellow-crowned night-heron	Nyctanassa violaceus (undescribed)	223,121,602	Ref
blue-winged teal	Anas discors Linnaeus, 1766	121,601,221	Ref
hooded merganser	Lophodytes cucullatus (Linnaeus, 1758)	121,601,221	Ref
bald eagle	Haliaeetus leucocephalus (Linnaeus, 1766)	223,101,121,601,102	Ref
northern Harrier	Circus cyaneus (Linnaeus, 1766)	223,121,602	Ref
interior least tern	Sterna antillarum athalassos (undescribed)	223,101,121,601	Ref
brown creeper	Certhia americana Bonaparte, 1838	223,601,121	Ref
Indiana myotis	Myotis sodalis Miller and Allen, 1928	223, 101, 108, 601	Ref
evening bat	Nycticeius humeralis (Rafinesque, 1818)	223, 602	Ref
orange-foot pimpleback	Plethobasus cooperianus (I. Lea, 1834)	101,601,223	Ref
bleufer	Potamilus purpuratus (Lamarck, 1819)	601,223	Ref
rabbitsfoot (subsp: cylindrica)	Quadrula cylindrica cylindrica (Say, 1817)	602,223,106	Ref

KFWIS HOME

Kentucky Threatened & Endangered Species Reported from McCracken County

Common Name	Scientific Name	Status Code	Ref
alligator gar	Atractosteus spatula (Lacepede, 1803)	223,601,999	Ref
Alabama shad	Alosa alabamiae (Jordan and Evermann, 1896)	223,601,999	Ref
cypress minnow	Hybognathus hayi (Jordan, 1885)	223,601,999	Ref
taillight shiner	Notropis maculatus (Hay, 1881)	223,602,999	Ref
spotted sunfish	Lepomis punctatus (Valenciennes, 1831)	223,602,999	Ref
Johnny darter	Etheostoma nigrum susanae (Rafinesque, 1820)	223,106,302,601,999	Ref
yellow-crowned night-heron	Nyctanassa violaceus (undescribed)	223,121,602	Ref
blue-winged teal	Anas discors Linnaeus, 1766	121,601,221	Ref
hooded merganser	Lophodytes cucullatus (Linnaeus, 1758)	121,601,221	Ref
Indiana myotis	Myotis sodalis Miller and Allen, 1928	223, 101, 108, 601	Ref
ring pink	Obovaria retusa (Lamarck, 1819)	101,601,223	Ref

KFWIS HOME



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James C. Codell, III
Secretary of Transportation

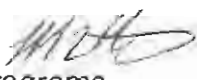
Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

Paul E. Patton
Governor

Clifford C. Linkes, P.E.
Deputy Secretary

MEMORANDUM

TO: Annette Coffey, Director
Division of Planning

FROM: Michael L. Hill, Director 
Division of Multimodal Programs

DATE: February 25, 2002

SUBJECT: Item No. 1-23.00
Interstate 66 (I-66) Planning Study
Marshall, McCracken, and/or Ballard Counties

Thank you for the opportunity to comment on this significant project.

The Division of Multimodal Programs' responsibilities include air quality conformity issues and the determination of air quality impacts of large construction projects on the state's rural nonattainment areas. Marshall County and a southern portion of Livingston County are designated as an isolated rural air quality maintenance area for the one-hour ozone standard. This area is in conformity with respect to a recently revised (effective 2-8-02) State Implementation Plan (SIP). The provisions of this designation will apply until, at least, 2025. During the period of this designation, implementation of any new projects would require that air quality conformity be demonstrated. The I-66 project is not included in the current Statewide Transportation Improvement Program (STIP); therefore, a new conformity analysis would be required in order to proceed. Additionally, new federal standards for ozone and particulate matter are expected to be implemented in 2004 and could impact Marshall and Livingston Counties as well as McCracken and Ballard Counties. Please contact Jesse Mayes of this Division, at (502) 564-7686, for more information on the air quality impacts of the I-66 construction.

In addition, the construction of a segment of Interstate Highway 66 (I-66) in this area potentially has major impacts on the Paducah Small Urban Area (SUA). Currently, a small urban area study is being developed for the Paducah



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"PROVIDE A SAFE, EFFICIENT, ENVIRONMENTALLY SOUND, AND FINANCIALLY RESPONSIBLE TRANSPORTATION SYSTEM
WHICH PROMOTES ECONOMIC GROWTH AND ENHANCES THE QUALITY OF LIFE IN KENTUCKY"
"AN EQUAL OPPORTUNITY EMPLOYER M/F/V"

area including a travel demand model covering all of McCracken County. During the course of the study, one of the goals has been to anticipate potential impacts of I-66. When completed, a copy of the small urban area study will be provided to the Division of Planning. Please contact Barry House of this Division, at (502) 564-7686, for any questions regarding this study.

The coordination and connectivity of bicycle and pedestrian facilities is important in the early planning and design stages of projects. Design Guidance from the United States Department of Transportation released in February, 2000, states "bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist.

One of the I-66 project goals is to "improve access and mobility in depressed or impoverished regions." Although Kentucky Interstate bridges and facilities traditionally do not accommodate bicycles or pedestrians, including additional modes of travel in the construction of the Mississippi River crossing will help meet that project goal. This Division recommends a separate bicycle and pedestrian path be incorporated in the design of the Mississippi River crossing. Other states have expanded Interstate bridges allowing bicycle and pedestrian access, including Pennsylvania and Oregon. Examples of this type of access can be provided upon request. Additional bicycle and pedestrian concerns to be addressed during design are Ballard County's extensive bicycle routes that need to be accommodated in overpass and ramp construction of this project. Please contact Paula Nye of this Division, at (502) 564-7686, for any questions about bicycle and pedestrian concerns.

We look forward to working with your Division to facilitate your study efforts in our air quality nonattainment and maintenance areas, SUA and MPO areas, and by increasing awareness of bicycle and pedestrian issues.

MLH/LJS/RPS/AJT



United States Department of the Interior

FISH AND WILDLIFE SERVICE

446 Neal Street
Cookeville, TN 38501

February 27, 2002

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

Re: FWS# 02-0985

Dear Ms. Coffey:

Thank you for your letter and enclosures of January 25, 2002, concerning the proposed construction of Interstate 66 from Interstate 24 in Marshall or McCracken County, Kentucky, to Interstate 57 in Mississippi County, Missouri. Fish and Wildlife Service (Service) personnel have reviewed the information submitted and we offer the following comments.

The work area for the Cookeville Ecological Services Field Office covers the entire State of Kentucky but does not include Missouri. The Ecological Services Field Office in Columbia, Missouri, should be contacted regarding the presence of Service trust resources in that state. Our comments, therefore, refer only to the sections of the proposed highway that would be constructed in Marshall, Ballard, and McCracken Counties, Kentucky.

We are concerned that large highway projects, such as Interstate 66, have the potential to fragment wildlife habitat and serve as conduits for secondary commercial and residential development (and associated indirect adverse impacts to the natural environment). We recommend that the proposed route follow, as closely as possible, existing transportation corridors to avoid and minimize both direct and indirect environmental impacts.

Rare species collection records available to the Service indicate that several federally protected species, as well as several "Species of Management Concern," occur or potentially occur in the project study area. We have attached a list of these species to this correspondence (Attachment D). Rare aquatic species are particularly abundant in both the Ohio and Mississippi Rivers, although other streams and rivers in the area may also contain rare fish and mussels. You should assess potential impacts to the federally listed species and determine if the proposed work may affect them. A "may affect" finding could necessitate initiation of formal consultation with this office and our subsequent issuance of a biological opinion. While "Species of Management Concern" are not currently listed, they are being evaluated for potential listing and we would appreciate any measures that you could take to minimize adverse impacts to individuals and their habitat.

Information available to the Service indicates that numerous streams and wetlands exist in the vicinity of the proposed I-66 corridor. Due to the large number of USGS quads involved, we are unable to provide copies of maps for all the known potential locations of wetlands. However, there is a web site that provides digital access to National Wetlands Inventory data for the entire State of Kentucky. The address for this website is www.kfwis.state.ky.us/KFWIS/DownloadNWIP/download.htm. It should be noted that these digital maps are not to be used as a substitute for field verification. They are provided as a planning tool. The Corps of Engineers should be contacted regarding the presence of regulatory wetlands and the requirements of wetlands protection statutes.

Your concern for the protection of endangered species and environmentally sensitive areas is appreciated. If you have questions regarding this information, or if we can be of further assistance, please contact Rob Tawes of my staff at telephone 931/528-6481, ext 213.

Sincerely,



Lee A. Barclay, Ph.D.
Field Supervisor

Attachment

xc: Wayne Davis, KDFWR, Frankfort, KY
Field Supervisor, FWS, Columbia, MO
Jim Townsend, COE, Louisville, KY
Randy Clark, COE, Memphis, TN

Rare Species List
Interstate-66, from I-24 to Missouri State Line

Federally Protected Species

Indiana bat - *Myotis sodalis* (E)
least tern - *Sterna antillarum* (E)
bald eagle - *Haliaeetus leucocephalus* (T)
pallid sturgeon - *Scaphirhynchus albus* (E)
sturgeon chub - *Macrhybopsis gelida* (C)
sicklefin chub - *Macrhybopsis meeki* (C)
orangefoot pimpleback - *Plethobasus cooperianus* (E)
fat pocketbook - *Potamilus capax* (E)

Species of Management Concern

Rafinesque's big-eared bat - *Corynorhinus rafinesquii*
rabbitsfoot - *Quadrula cylindrica*

E = federally endangered
T = federally threatened
C = Candidate species



Federal Emergency Management Agency

Washington, D.C. 20472

February 28, 2002

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

Dear Ms. Coffey:

This is to acknowledge receipt of your January 25, 2002, letter to the Federal Emergency Management Agency (FEMA). FEMA is currently reviewing your concerns and will get back to you as soon as possible.

Should you need further assistance, please contact Ms. Zina Colbert at (202) 646-4582. Please reference folder 17830 when inquiring about this response. Thank you for your cooperation.

Sincerely,

Howard Leikin, for

Robert F. Shea
Acting Administrator, Federal Insurance
and Mitigation Administration

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Reply to
Attention of:

DEPARTMENT OF THE ARMY
MEMPHIS DISTRICT CORPS OF ENGINEERS
167 NORTH MAIN STREET B-202
MEMPHIS TN 38103-1894

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MAR 8 9 57 AM '02

March 1, 2002

Construction-Operations Division

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

Dear Ms. Coffey:

Thank you for your letter of January 25, 2002 asking us to identify specific issues or concerns that affect the development of a proposed highway project identified in the Kentucky Transportation Cabinet (KYTC) public notice KYTC Item # 1-23.00.

The highway segment of concern was given as Interstate Highway 66 (I-66) in Marshall, McCracken, and/or Ballard Counties in Kentucky and Mississippi County in Missouri from I-24 in northwestern Marshall County or McCracken County in Kentucky to I-57 in Mississippi County in Missouri. The project vicinity shown on the second page of the public notice includes an area in the Memphis District that is significant in wetlands and includes a Mississippi River crossing. These proposed improvements would likely require Department of the Army Section 10 and Section 404 Permits.

The proposed routing should avoid any crossing that will interfere with a future operation of the Birds Point-New Madrid Floodway, Missouri. The Floodway is an authorized and integral component of the Mississippi River and Tributaries Project. The purpose of the Floodway is to lower flood stages along the Mississippi River upstream and adjacent to the floodway during major flood events. The operation of the floodway is critical in that the design grade for the levees, which provide flood protection to urban and rural areas along the Mississippi River in these areas, is based on its proper operation. Pertinent information regarding the Floodway is provided for your use (Enclosures 1 through 3).

If an Environmental Impact Study is required for this project, the Memphis District would consider using it, as a cooperating agency, for our National Environmental Protection Act permit review. Due to the potential, significant impacts of such a project, we would like to meet with your planners at an early stage before designs get too advanced. We believe early coordination on this matter could result in significant time-savings down the road as appropriate permits are applied for and processed.

-2-

Please contact Mr. Larry Watson (901) 544-0736 or Mr. Ray Lartigue (901) 544-3370 of our staff if you have any questions or if we can provide any further assistance..

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert D. Cash". The signature is fluid and cursive, with a large initial "R" and a long, sweeping underline.

Robert D. Cash, P.E.
Chief, Construction-Operations Division

Enclosures

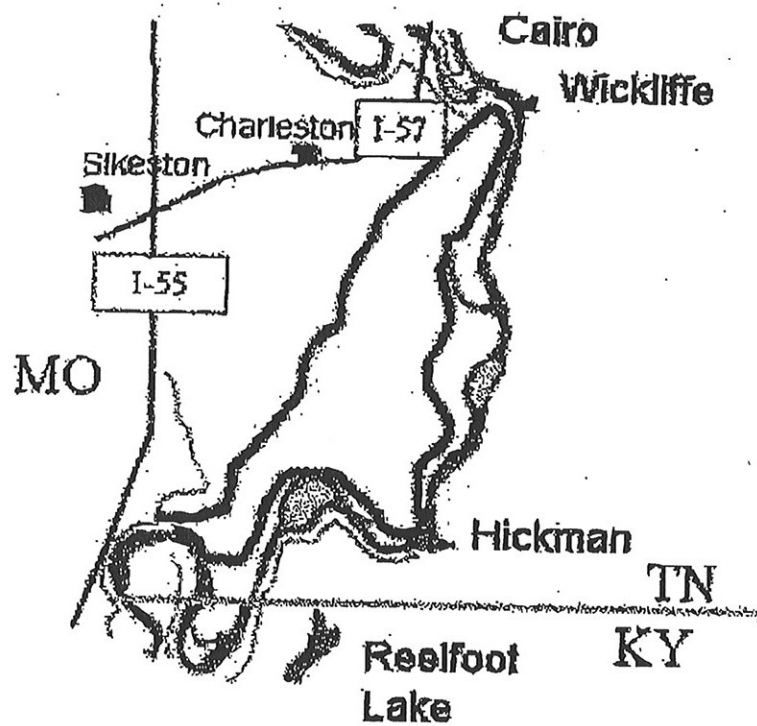
Floodway Information

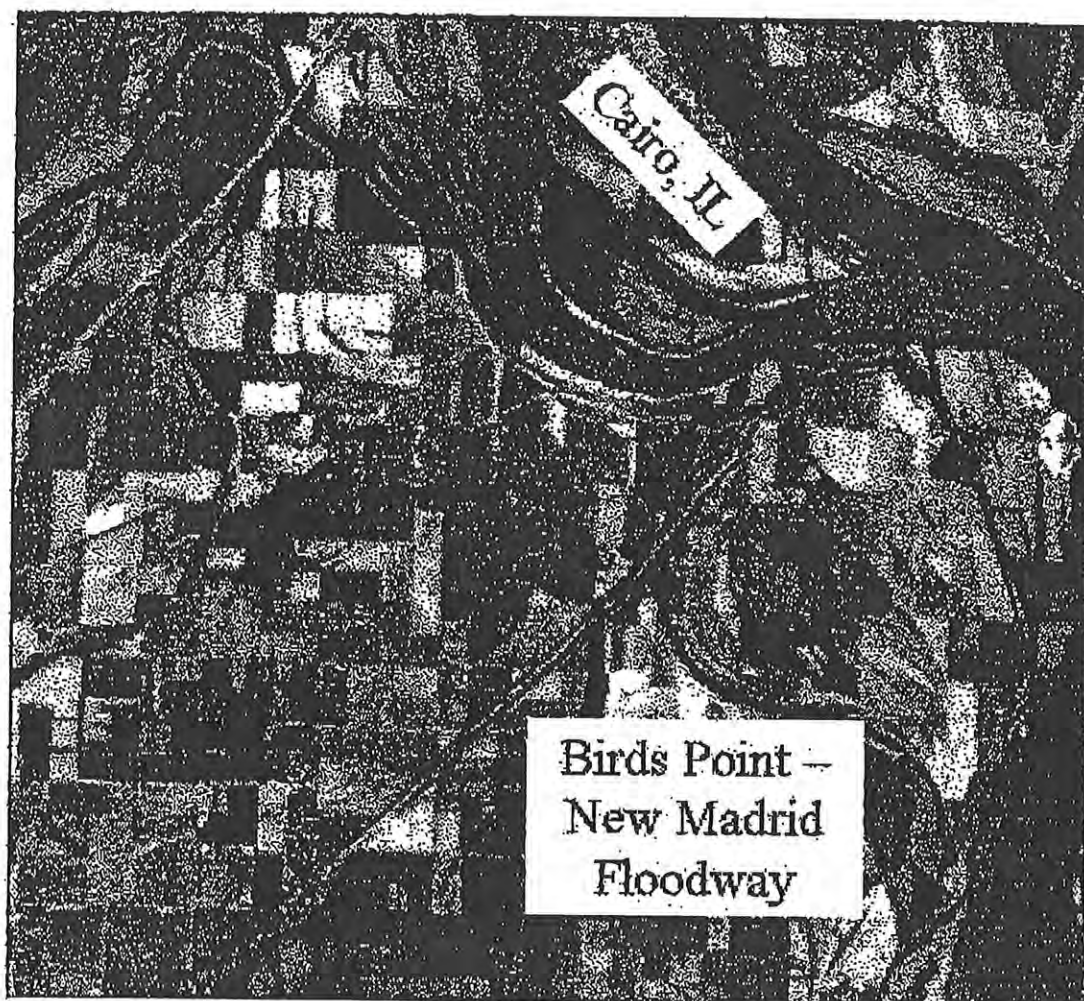
The Birds Point - New Madrid Floodway was authorized by the Flood Control Act of 1928 as part of the Mississippi River and Tributaries (MR&T) Project. It remains a vital part of the MR&T project to this day. Its purpose is to lower flood stages upstream and adjacent to the floodway during major flood events. The floodway is protected from flooding, during more ordinary high water events, by the frontline levee to a height equivalent to 60.5 feet on the Cairo gage. However, the President of the Mississippi River Commission is authorized (by the Flood Control Act of 1965) to operate the floodway "to include breaching of the fuse plug levee during floods which reach 58 feet and threaten to exceed 60 feet at Cairo." Based on this, the authorized level of flood protection, the expected frequency of floodway operation is on the average of 1 in 80 years.

Under the current plan of operation, adopted in 1986, breaching of sections of the frontline levee would be accomplished by pumping blasting agent into pipes that have been pre-emplaced into the levee. Over two miles of the frontline levee, at the northern section of the floodway, would be operated as required by hydrologic conditions. In the area immediately behind the crevasse sections, bluehole and sanding effects will be expected for a distance of approximately one-half mile. Other areas of the frontline levee, in the southern reach, would also be operated to provide inflow/outflow for floodwaters.

Currently there is a 1,500 foot gap between the frontline and setback levees at the southern end of the floodway. This gap allows backwater from the Mississippi River to enter the floodway at high river stages. It should be noted that a very high percentage of the floodway is already flooded by backwater at the stages mentioned in the above paragraph. The Flood Control Act of 1954 authorized closure of the gap; additionally a pumping station was authorized for the area by the Water Resources Development Act of 1986. These features are part of the St. Johns Bayou and New Madrid Floodway Project. A Supplemental Environmental Impact Statement for the project is currently out for comments. Closure of the gap would eliminate backwater from entering the floodway; however, the floodway would remain a dedicated floodway and there are currently no plans for its de-authorization.

If you require more information regarding the Birds Point - New Madrid Floodway and its operation, please call Patsy Fletcher of our Readiness Branch at 901-544-3461. For information regarding the St. John's Bayou and New Madrid Floodway project, please contact Larry Sharpe, 901-544-3476.





From: Palmer-Ball, Brainard (NREPC, KSNPC)
Sent: Wednesday, March 06, 2002 11:31 AM
To: Barber, Alex (NREPC, DEP)
Subject: KSNPC response to KIRP

TO: Alex Barber, NREPC-DEP, Intergovernmental Review Coordinator

FROM: Brainard Palmer-Ball, Jr., Ky State Nature Preserves Commission

RE: KSNPC response to KIRP

DATE: March 6, 2002

A day late on this one, Alex.

RE: Project No. SERO2002-1(I-66 Scoping In western Kentucky)

KSNPC has reviewed the project description and has directly forwarded a summary of USFWS and state listed species in the western Kentucky counties that could be affected. At this point in time, it is too early to speculate on specific potential issues that could arise, but the summary of listed species by county should provide the Ky. Transportation Cabinet with a good basis for beginning to assess potential impacts to threatened and endangered species.

JAMES E. BICKFORD
SECRETARY



PAUL E. PATTON
GOVERNOR

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR NATURAL RESOURCES
DIVISION OF FORESTRY
LEAH W. MACSWORDS, DIRECTOR
627 COMANCHE TRAIL
FRANKFORT, KENTUCKY 40601

March 1, 2002

Mr. Alex Barber
Department for Environmental Protection
14 Reilly Road
Frankfort, Kentucky 40601

Dear Mr. Barber:

The Division of Forestry has reviewed Transportation Cabinet's early study for possible construction of a segment of Interstate Highway 66 (SERO2002-11). The division operates John P. Rhody Nursery (JPRN) near Gilbertsville, Kentucky. The nursery is located off of Ky. Hwy. 282 just north of the airport. The land lies between the airport and Interstate 24 in Marshall County and is located in the study area.

This nursery is the larger of two state operated tree seedling nurseries and is critical to current operation of the division. Loss of the nursery would significantly impact the budget and mission of the division. From an environmental standpoint the nursery is bounded on the south by a cypress slough with significant plant and fauna value. The pair of nesting Bald Eagles presently using the area demonstrates the significance of this area.

Please contact James Funk, Branch Manager, Forest Resources Branch, at (502) 564-4496 if you have any questions or desire additional information.

Sincerely,

Leah W. MacSwords
Director

LWM:SK:gs

Attachments

c: Hugh N. Archer, Commissioner
Jim Funk



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DONALD S. DOTT, JR.
DIRECTOR



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PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
KENTUCKY STATE NATURE PRESERVES COMMISSION

801 SCHENKEL LANE
FRANKFORT, KENTUCKY 40601-1403
(502) 573-2886 VOICE
(502) 573-2355 FAX

March 6, 2002

Ms. Annette Coffey, Director
Division of Planning
Transportation Cabinet
Frankfort, Kentucky 40601

Dear Ms. Coffey:

We have reviewed the I-66 project planning package for western Kentucky that was submitted through the state clearinghouse for comments (SERO2002-11). Enclosed with this letter is a summary printout by county of USFWS and state listed species that occur in the counties of western Kentucky that could be affected by this project. This summary should serve as a basis for further consideration of threatened and endangered species issues that might arise during planning for possible implementation of the project.

Thank you for the opportunity to review this project proposal.

Sincerely,

A handwritten signature in cursive script that reads "Brainard Palmer-Ball Jr.".

Brainard Palmer-Ball, Jr.
Field Representative

Enclosure



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

County Name	Element Class	Common Name	Scientific Name	KSNP Status	Usage Status
Ballard	AMPHIBIANS	BIRD-VOICED TREEFROG	HYLA AVIVOCA	T	
Ballard	AMPHIBIANS	GREEN TREEFROG	HYLA CINEREA	S	
Ballard	AMPHIBIANS	NORTHERN CRAWFISH FROG	RANA AREOLATA CIRCULOSA	S	
Ballard	BIRDS	BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	E	LT
Ballard	BIRDS	BANK SWALLOW	RIPARIA RIPARIA	S	
Ballard	BIRDS	BROWN CREEPER	CERTHIA AMERICANA	E	
Ballard	BIRDS	DOUBLE-CRESTED CORMORANT	PHALACROCORAX AURITUS	H	
Ballard	BIRDS	FISH CROW	CORVUS OSSIFRAGUS	S	
Ballard	BIRDS	GREAT BLUE HERON	ARDEA HERODIAS	S	
Ballard	BIRDS	GREAT EGRET	ARDEA ALBA	E	
Ballard	BIRDS	HOODED Merganser	LOPHODYTES CUCULLATUS	T	
Ballard	BIRDS	INTERIOR LEAST TERN	STERNA ANTILLARUM ATHALASSOS	E	LE
Ballard	BIRDS	LEAST BITTERN	IXOBRYCHUS EXILIS	T	
Ballard	BIRDS	MISSISSIPPI KITE	ICTINIA MISSISSIPPIENSIS	S	
Ballard	BIRDS	SEDGE WREN	CISTOTHORUS PLATENSIS	S	
Ballard	BIRDS	YELLOW-CROWNED NIGHT-HERON	NYCTANASSA VIOLACEA	T	
Ballard	BIVALVES	BLEUFER	POTAMILUS PURPURATUS	E	
Ballard	BIVALVES	ORANGEFOOT PIMPLEBACK	PLETHOBASUS COOPERIANUS	E	LE
Ballard	BIVALVES	POCKETBOOK	LAMPSILIS OVATA	E	
Ballard	BIVALVES	PYRAMID PIGTOE	PLEUROBEMA RUBRUM	E	
Ballard	BIVALVES	RABBITSFOOT	QUADRULA CYLINDRICA CYLINDRICA	T	
Ballard	BIVALVES	RING PINK	OBOVARIA RETUSA	E	LE
Ballard	BIVALVES	SHEEPNOSE	PLETHOBASUS CYPHYUS	S	
Ballard	CRUSTACEANS	A CRAYFISH	ORCONECTES LANCIFER	E	
Ballard	CRUSTACEANS	A CRAYFISH	ORCONECTES PALMERI PALMERI	E	
Ballard	CRUSTACEANS	A CRAYFISH	PROCAMBARUS VIAEVIRIDIS	T	
Ballard	CRUSTACEANS	CAJUN DWARF CRAYFISH	CAMBARELLUS SHUFELDTII	S	
Ballard	FISHES	ALLIGATOR GAR	ATRACTOSTEUS SPATULA	E	
Ballard	FISHES	BLACK BUFFALO	ICTIOBUS NIGER	S	
Ballard	FISHES	BLACKTAIL SHINER	CYPRINELLA VENUSTA	S	
Ballard	FISHES	CHAIN PICKEREL	ESOX NIGER	S	
Ballard	FISHES	CHESTNUT LAMPREY	ICHTHYOMYZON CASTANEUS	S	
Ballard	FISHES	CYPRESS DARTER	ETHEOSTOMA PROELIARE	T	
Ballard	FISHES	CYPRESS MINNOW	HYBOGNATHUS HAYI	E	
Ballard	FISHES	FLATHEAD CHUB	PLATYGOBIO GRACILIS	S	
Ballard	FISHES	INLAND SILVERSIDE	MENIDIA BERYLLINA	T	
Ballard	FISHES	LAKE CHUBSUCKER	ERIMYZON SUCCETTA	T	
Ballard	FISHES	LAKE STURGEON	ACIPENSER FULVESCENS	E	
Ballard	FISHES	NORTHERN MADTOM	NOTURUS STIGMOSUS	S	

County Name	Element Class	Common Name	Scientific Name	KSNE Status	Usage Status
Ballard	FISHES	PALLID STURGEON	SCAPHIRHYNCHUS ALBUS	E	LE
Ballard	FISHES	PLAINS MINNOW	HYBOGNATHUS PLACITUS	S	
Ballard	FISHES	REDSPOTTED SUNFISH	LEPOMIS MINIATUS	T	
Ballard	FISHES	SICKLEFIN CHUB	MACRHYBOPSIS MEEKI	H	C
Ballard	FISHES	SPOTTAIL SHINER	NOTROPIS HUDSONIUS	S	
Ballard	FISHES	STURGEON CHUB	MACRHYBOPSIS GELIDA	H	C
Ballard	FISHES	TAILLIGHT SHINER	NOTROPIS MACULATUS	T	
Ballard	GASTROPODS	ARMORED ROCKSNAIL	LITHASIA ARMIGERA	S	
Ballard	GASTROPODS	VARICOSE ROCKSNAIL	LITHASIA VERRUCOSA	S	
Ballard	MAMMALS	EVENING BAT	NYCTICEIUS HUMERALIS	T	
Ballard	MAMMALS	INDIANA MYOTIS	MYOTIS SODALIS	E	LE
Ballard	MAMMALS	RAFINESQUE'S BIG-EARED BAT	CORYNORHINUS RAFINESQUII	S	
Ballard	MAMMALS	SOUTHEASTERN MYOTIS	MYOTIS AUSTRORIPARIUS	E	
Ballard	PALUSTRINE COMMUNITI		CYPRESS SWAMP	N	
Ballard	REPTILES	ALLIGATOR SNAPPING TURTLE	MACROCLEMYS TEMMINCKII	T	
Ballard	REPTILES	MIDLAND SMOOTH SOUTHSHELL	APALONE MUTICA MUTICA	S	
Ballard	REPTILES	WESTERN MUD SNAKE	FARANCIA ABACURA REINWARDTII	S	
Ballard	REPTILES	WESTERN RIBBON SNAKE	THAMNOPHIS PROXIMUS PROXIMUS	T	
Ballard	VASCULAR PLANTS	AMERICAN FROG'S-BIT	LIMNOBIUM SPONGIA	T	
Ballard	VASCULAR PLANTS	BLUE JASMINE LEATHER-FLOWER	CLEMATIS CRISPA	T	
Ballard	VASCULAR PLANTS	BLUE MUD-PLANTAIN	HETERANTHERA LIMOSA	S	
Ballard	VASCULAR PLANTS	BLUE SCORPION-WEED	PHACELIA RANUNCULACEA	S	
Ballard	VASCULAR PLANTS	BLUE-JOINT REEDGRASS	CALAMAGROSTIS CANADENSIS VAR MACOUN	E	
Ballard	VASCULAR PLANTS	BOG RUSH	JUNCUS ELLIOTTII	H	
Ballard	VASCULAR PLANTS	BROAD-LEAF GOLDEN-ASTER	HETEROTHECA SUBAXILLARIS VAR LATIFOLIA	T	
Ballard	VASCULAR PLANTS	BUSH'S MUHLY	MUHLENBERGIA BUSHII	E	
Ballard	VASCULAR PLANTS	BUXBAUM'S SEDGE	CAREX BUXBAUMII	H	
Ballard	VASCULAR PLANTS	CAROLINA FANWORT	CABOMBA CAROLINIANA	T	
Ballard	VASCULAR PLANTS	CLUSTERED BLUETS	OLDENLANDIA UNIFLORA	E	
Ballard	VASCULAR PLANTS	COMPASS PLANT	SILPHIUM LACINIATUM VAR ROBINSONII	T	
Ballard	VASCULAR PLANTS	CREeping ST. JOHN'S-WORT	HYPERICUM ADPRESSUM	H	
Ballard	VASCULAR PLANTS	ILLINOIS PONDWEED	POTAMOGETON ILLINOENSIS	S	
Ballard	VASCULAR PLANTS	LAKECRESS	ARMORACIA LACUSTRIS	T	
Ballard	VASCULAR PLANTS	LARGE SEDGE	CAREX GIGANTEA	T	
Ballard	VASCULAR PLANTS	NARROW-LEAVED MEADOW-SWEET	SPIRAEA ALBA	E	
Ballard	VASCULAR PLANTS	ONE-FLOWER FIDDLELEAF	HYDROLEA UNIFLORA	S	
Ballard	VASCULAR PLANTS	PALE MANNA GRASS	TORREYCHLOA PALLIDA	E	
Ballard	VASCULAR PLANTS	PALE UMBRELLA-WORT	MIRABILIS ALBIDA	E	
Ballard	VASCULAR PLANTS	PEACH-LEAVED WILLOW	SALIX AMYGDALOIDES	H	

County Name	Element Class	Common Name	Scientific Name	KSNC Status	Usage Status
Ballard	VASCULAR PLANTS	PICKEREL WEED	PONTERERIA CORDATA	T	
Ballard	VASCULAR PLANTS	PURPLE SANDGRASS	TRIPLASIS PURPUREA	H	
Ballard	VASCULAR PLANTS	RIVER BULRUSH	SCIRPUS FLUVIATILIS	E	
Ballard	VASCULAR PLANTS	ROSE TURTLEHEAD	CHELONE OBLIQUA VAR SPECIOSA	S	
Ballard	VASCULAR PLANTS	SOUTHERN CRABAPPLE	MALUS ANGUSTIFOLIA	S	
Ballard	VASCULAR PLANTS	SWAMP CANDLES	LYSIMACHIA TERRESTRIS	E	
Ballard	VASCULAR PLANTS	SWEET CONEFLOWER	RUDBECKIA SUBTOMENTOSA	E	
Ballard	VASCULAR PLANTS	WATER HICKORY	CARYA AQUATICA	T	
Ballard	VASCULAR PLANTS	WATER-PURSLANE	DIDIPLIS DIANDRA	S	
Ballard	VASCULAR PLANTS	WOOLLY SEDGE	CAREX LANUGINOSA	E	
Carlisle	AMPHIBIANS	GREEN TREEFROG	HYLA CINEREA	S	
Carlisle	AMPHIBIANS	NORTHERN CRAWFISH FROG	RANA AREOLATA CIRCULOSA	S	
Carlisle	BIRDS	BACHMAN'S SPARROW	AIMOPHILA AESTIVALIS	E	
Carlisle	BIRDS	BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	E	LT
Carlisle	BIRDS	BARN OWL	TYTO ALBA	S	
Carlisle	BIRDS	FISH CROW	CORVUS OSSIFRAGUS	S	
Carlisle	BIRDS	GREAT BLUE HERON	ARDEA HERODIAS	S	
Carlisle	BIRDS	GREAT EGRET	ARDEA ALBA	E	
Carlisle	BIRDS	HOODED Merganser	LOPHODYTES CUCULLATUS	T	
Carlisle	BIRDS	INTERIOR LEAST TERN	STERNA ANTILLARUM ATHALASSOS	E	LE
Carlisle	BIRDS	LARK SPARROW	CHONDESTES GRAMMACUS	T	
Carlisle	BIRDS	MISSISSIPPI KITE	ICTINIA MISSISSIPPIENSIS	S	
Carlisle	BIVALVES	FAT POCKETBOOK	POTAMILUS CAPAX	E	LE
Carlisle	BIVALVES	TEXAS LILLIPUT	TOXOLASMA TEXASIENSIS	E	
Carlisle	CRUSTACEANS	A CRAYFISH	ORCONECTES LANCIFER	E	
Carlisle	CRUSTACEANS	A CRAYFISH	ORCONECTES PALMERI PALMERI	E	
Carlisle	CRUSTACEANS	CAJUN DWARF CRAYFISH	CAMBARELLUS SHUFELDTII	S	
Carlisle	FISHES	BLACKTAIL SHINER	CYPRINELLA VENUSTA	S	
Carlisle	FISHES	CHAIN PICKEREL	ESOX NIGER	S	
Carlisle	FISHES	CYPRESS MINNOW	HYBOGNATHUS HAYI	E	
Carlisle	FISHES	REDSPOTTED SUNFISH	LEPOMIS MINIATUS	T	
Carlisle	FISHES	SMALLSCALE DARTER	ETHEOSTOMA MICROLEPIDUM	E	
Carlisle	FISHES	TAILLIGHT SHINER	NOTROPIS MACULATUS	T	
Carlisle	GASTROPODS	ARMORED ROCKSNAIL	LITHASIA ARMIGERA	S	
Carlisle	GASTROPODS	VARICOSE ROCKSNAIL	LITHASIA VERRUCOSA	S	
Carlisle	MAMMALS	COTTON MOUSE	PEROMYSCUS GOSSYPINUS	T	
Carlisle	MAMMALS	EVENING BAT	NYCTICEIUS HUMERALIS	T	
Carlisle	MAMMALS	INDIANA MYOTIS	MYOTIS SODALIS	E	LE
Carlisle	MAMMALS	RAFINESQUE'S BIG-EARED BAT	CORYNORHINUS RAFINESQUII	S	

County Name	Element Class	Common Name	Scientific Name	KSNPC Status	Uses	Status
Carlisle	MAMMALS	SOUTHEASTERN MYOTIS	MYOTIS AUSTRORIPARIUS	E		
Carlisle	PALUSTRINE COMMUNITI		CYPRESS SWAMP	N		
Carlisle	REPTILES	ALLIGATOR SNAPPING TURTLE	MACROCLEMYS TEMMINCKII	T		
Carlisle	REPTILES	MIDLAND SMOOTH SOFTSHELL	APALONE MUTICA MUTICA	S		
Carlisle	REPTILES	SOUTHERN PAINTED TURTLE	CHRYSEMY'S PICTA DORSALIS	T		
Carlisle	TERRESTRIAL COMMUNIT.		COASTAL PLAIN MESOPHYTIC CANE FOREST	N		
Carlisle	VASCULAR PLANTS	BLUE JASMINE LEATHER-FLOWER	CLEMATIS CRISPA	T		
Carlisle	VASCULAR PLANTS	BLUE SCORPION-WEED	PHACELIA RANUNCULACEA	S		
Carlisle	VASCULAR PLANTS	BROAD-LEAF GOLDEN-ASTER	HETEROTHECA SUBAXILLARIS VAR LATIFOLIA	T		
Carlisle	VASCULAR PLANTS	CAROLINA FANWORT	CABOMBA CAROLINIANA	T		
Carlisle	VASCULAR PLANTS	EPIPHYTIC SEDGE	CAREX DECOMPOSITA	T		
Carlisle	VASCULAR PLANTS	GREATER BLADDERWORT	UTRICULARIA MACRORHIZA	E		
Carlisle	VASCULAR PLANTS	ROSE TURTLEHEAD	CHELONE OBLIQUA VAR SPECIOSA	S		
Carlisle	VASCULAR PLANTS	SNOW MELANTHERA	MELANTHERA NIVEA	S		
Carlisle	VASCULAR PLANTS	TURK'S CAP LILY	LILUM SUPERBUM	T		
Carlisle	VASCULAR PLANTS	WATER-PURSLANE	DIDYLIIS DIANDRA	S		
Graves	AMPHIBIANS	BIRD-VOICED TREEFROG	HYLA AVIVOCA	T		
Graves	AMPHIBIANS	GREEN TREEFROG	HYLA CINEREA	S		
Graves	AMPHIBIANS	NORTHERN CRAWFISH FROG	RANA AREOLATA CIRCULOSA	S		
Graves	AMPHIBIANS	THREE-LINED SALAMANDER	EURYCEA GUTTOLINEATA	T		
Graves	BIRDS	BACHMAN'S SPARROW	AIMOPHILA AESTIVALIS	E		
Graves	BIRDS	BARN OWL	TYTO ALBA	S		
Graves	BIRDS	FISH CROW	CORVUS OSSIFRAGUS	S		
Graves	BIRDS	GREAT BLUE HERON	ARDEA HERODIAS	S		
Graves	BIRDS	GREAT EGRET	ARDEA ALBA	E		
Graves	BIRDS	LARK SPARROW	CHONDESTES GRAMMACUS	T		
Graves	BIRDS	MISSISSIPPI KITE	ICTINIA MISSISSIPPIENSIS	S		
Graves	BIRDS	SHARP-SHINNED HAWK	ACCIPITER STRIATUS	S		
Graves	BIVALVES	LITTLE SPECTACLECASE	VILLOSA LIENOSA	S		
Graves	CRUSTACEANS	A DWARF CRAYFISH	CAMBARILLUS PUER	E		
Graves	FISHES	BLACKTAIL REDHORSE	MOXOSTOMA POECILURUM	E		
Graves	FISHES	BLACKTAIL SHINER	CYPRINELLA VENUSTA	S		
Graves	FISHES	BLUNTFACE SHINER	CYPRINELLA CAMURA	E		
Graves	FISHES	BRIGHT EYE DARTER	ETHEOSTOMA LYNCEUM	E		
Graves	FISHES	BROWN MADTOM	NOTURUS PHAEUS	E		
Graves	FISHES	CENTRAL MUDMINNOW	UMBRA LIMI	T		
Graves	FISHES	CYPRESS MINNOW	HYBOGNATHUS HAYI	E		
Graves	FISHES	DOLLAR SUNFISH	LEPOMIS MARGINATUS	E		
Graves	FISHES	FIREBELLY DARTER	ETHEOSTOMA PYRRHOGASTER	E		

County Name	Element Class	Common Name	Scientific Name	KenPC Status	Usage Status
Graves	FISHES	GOLDSTRIPE DARTER	ETHEOSTOMA PARVIPPINNE	E	
Graves	FISHES	GULF DARTER	ETHEOSTOMA SWAINI	E	
Graves	FISHES	LAKE CHUBSUCKER	ERIMYZON SUCCETTA	T	
Graves	FISHES	LEAST MADTOM	NOTURUS HILDEBRANDI	E	
Graves	FISHES	REDSPOTTED SUNFISH	LEPOMIS MINIATUS	T	
Graves	FISHES	RELICT DARTER	ETHEOSTOMA CHIENENSE	E	LE
Graves	FISHES	SWAMP DARTER	ETHEOSTOMA FUSIFORME	E	
Graves	MAMMALS	EVENING BAT	NYCTICEIUS HUMERALIS	T	
Graves	MAMMALS	SOUTHEASTERN MYOTIS	MYOTIS AUSTRORIPARIUS	E	
Graves	REPTILES	EASTERN RIBBON SNAKE	THAMNOPHIS SAURITUS SAURITUS	S	
Graves	REPTILES	KIRTLAND'S SNAKE	CLONOPHIS KIRTLANDII	T	
Graves	REPTILES	WESTERN MUD SNAKE	FARANCIA ABACURA REINWARDTII	S	
Graves	REPTILES	WESTERN RIBBON SNAKE	THAMNOPHIS PROXIMUS PROXIMUS	T	
Graves	VASCULAR PLANTS	AMERICAN FROG'S-BIT	LIMNOBIUM SPONGIA	T	
Graves	VASCULAR PLANTS	COMPASS PLANT	SILPHIUM LACINIATUM VAR ROBINSONII	T	
Graves	VASCULAR PLANTS	FLOATING PENNYWORT	HYDROCOTYLE RANUNCULOIDES	E	
Graves	VASCULAR PLANTS	HAIRY HAWKWEED	HIERACIUM LONGIPILUM	T	
Graves	VASCULAR PLANTS	MOCK BISHOP'S-SWEED	PTILIMNIUM CAPILLACEUM	T	
Graves	VASCULAR PLANTS	NODDING RATTLESNAKE-ROOT	PRENANTHES CREPIDINEA	T	
Graves	VASCULAR PLANTS	PORCUPINE SEDGE	CAREX HYSTERICINA	H	
Graves	VASCULAR PLANTS	ROSE TURTLEHEAD	CHELONE OBLIQUA VAR SPECIOSA	S	
Graves	VASCULAR PLANTS	SWEET CONEFLOWER	RUDBECKIA SUBTOMENTOSA	E	
Graves	VASCULAR PLANTS	THREAD-LIKE NAIAD	NAJAS GRACILLIMA	S	
Graves	VASCULAR PLANTS	WATER LOCUST	GLEDITSIA AQUATICA	S	
Graves	VASCULAR PLANTS	WEAK STELLATE SEDGE	CAREX SEORSA	S	
Marshall	AMPHIBIANS	BIRD-VOICED TREEFROG	HYLA AVIVOCA	T	
Marshall	AMPHIBIANS	GREEN TREEFROG	HYLA CINEREA	S	
Marshall	AMPHIBIANS	NORTHERN CRAWFISH FROG	RANA AREOLATA CIRCULOSA	S	
Marshall	BIRDS	BARN OWL	TYTO ALBA	S	
Marshall	BIRDS	BEWICK'S WREN	THRYOMANES BEWICKII	S	
Marshall	BIRDS	BROWN CREEPER	CERTHIA AMERICANA	E	
Marshall	BIRDS	FISH CROW	CORVUS OSSIFRAGUS	S	
Marshall	BIRDS	GREAT BLUE HERON	ARDEA HERODIAS	S	
Marshall	BIRDS	YELLOW-CROWNED NIGHT-HERON	NYCTANASSA VIOLACEA	T	
Marshall	BIVALVES	CLUBSHELL	PLEUROBEMA CLAVA	E	LE
Marshall	BIVALVES	LONGSOLID	FUSCONAIA SUBROTUNDA SUBROTUNDA	S	
Marshall	BIVALVES	ORANGEFOOT PIMPLEBACK	PLETHOBASUS COOPERIANUS	E	LE
Marshall	BIVALVES	PINK MUCKET	LAMPSILIS ABRUPTA	E	LE
Marshall	BIVALVES	POCKETBOOK	LAMPSILIS OVATA	E	

County Name	Element Class	Common Name	Scientific Name	KSNPC Status	Usage Status
Marshall	BIVALVES	PYRAMID PIGTOE	PLEUROBEMA RUBRUM	E	
Marshall	BIVALVES	RABBITSFOOT	QUADRULA CYLINDRICA CYLINDRICA	T	
Marshall	BIVALVES	RING PINK	OBOVARIA RETUSA	E	LE
Marshall	BIVALVES	SHEEPNOSE	PLETHOBASUS CYPHYUS	S	
Marshall	BIVALVES	SPECTACLECASE	CUMBERLANDIA MONODONTA	E	
Marshall	BIVALVES	TEXAS LILLIPUT	TOXOLASMA TEXASIENSIS	E	
Marshall	CRUSTACEANS	A CRAYFISH	PROCAMBARUS VIAEVIRIDIS	T	
Marshall	FISHES	ALABAMA SHAD	ALOSA ALABAMAE	E	C
Marshall	FISHES	AMERICAN BROOK LAMPREY	LAMPETRA APPENDIX	T	
Marshall	FISHES	BLACK BUFFALO	ICTIOBUS NIGER	S	
Marshall	FISHES	CENTRAL MUDMINNOW	UMBRA LIMI	T	
Marshall	FISHES	CHESTNUT LAMPREY	ICHTHYOMYZON CASTANEUS	S	
Marshall	FISHES	CYPRESS DARTER	ETHEOSTOMA PROELIARE	T	
Marshall	FISHES	DOLLAR SUNFISH	LEPOMIS MARGINATUS	E	
Marshall	FISHES	OLIVE DARTER	PERCINA QUAMATA	E	
Marshall	FISHES	PALLID SHINER	HYBOPHS AMNIS	H	
Marshall	FISHES	REDSPOTTED SUNFISH	LEPOMIS MINIATUS	T	
Marshall	GASTROPODS	ARMORED ROCKSNAIL	LITHASIA ARMIGERA	S	
Marshall	GASTROPODS	MUDDY ROCKSNAIL	LITHASIA SALEBROSA	S	
Marshall	GASTROPODS	ORNATE ROCKSNAIL	LITHASIA GENICULATA	S	
Marshall	GASTROPODS	VARICOSE ROCKSNAIL	LITHASIA VERRUCOSA	S	
Marshall	INSECTS	DUKES' SKIPPER	EUPHYES DUKESI	S	
Marshall	MAMMALS	EVENING BAT	NYCTICEIUS HUMERALIS	T	
Marshall	MAMMALS	SOUTHEASTERN MYOTIS	MYOTIS AUSTRORIPARIUS	E	
Marshall	REPTILES	EASTERN RIBBON SNAKE	BOTTOMLAND HARDWOOD FOREST	N	
Marshall	REPTILES	MIDLAND SMOOTH SOUTHSHELL	THAMNOPHIS SAURITUS SAURITUS	S	
Marshall	REPTILES	NORTHERN PINE SNAKE	APALONE MUTICA MUTICA	S	
Marshall	REPTILES	WESTERN MUD SNAKE	PITUOPHIS MELANOLEUCUS MELANOLEUCUS	T	
Marshall	VASCULAR PLANTS	BEARDED SKELETONGRASS	FARANCIA ABACURA REINWARDTII	S	
Marshall	VASCULAR PLANTS	BLUE MUD-PLANTAIN	GYMNOPOGON AMBIGUUS	S	
Marshall	VASCULAR PLANTS	BUCKLEY'S GOLDENROD	HETERANTHERA LIMOSA	S	
Marshall	VASCULAR PLANTS	BUSH'S MUHLY	SOLIDAGO BUCKLEYI	S	
Marshall	VASCULAR PLANTS	CAROLINA FANWORT	MUHLENBERGIA BUSHII	E	
Marshall	VASCULAR PLANTS	CREAM WILD INDIGO	CABOMBA CAROLINIANA	T	
Marshall	VASCULAR PLANTS	EPIPHYTIC SEDGE	BAPTISIA BRACCTEATA VAR LEUCOPHAEA	S	
Marshall	VASCULAR PLANTS	FRASER'S LOOSESTRIPE	CAREX DECOMPOSITA	T	
Marshall	VASCULAR PLANTS	FRINGED NUTRUSH	LYSIMACHIA FRASERI	E	
Marshall	VASCULAR PLANTS	HAIRY HAWKWEED	SCLERIA CILIATA VAR CILIATA	E	
Marshall	VASCULAR PLANTS		HIERACIUM LONGIPILUM	T	

County Name	Element Class	Common Name	Scientific Name	KSNPC Status	Usage Status
Marshall	VASCULAR PLANTS	LONGLEAF STITCHWORT	STELLARIA LONGIFOLIA	S	
Marshall	VASCULAR PLANTS	MOUNTAIN SILVER-BELL	HALESIA TETRAPTERA	E	
Marshall	VASCULAR PLANTS	NUTTALL'S MOCK BISHOP'S-S-WEED	PTILIMNIUM NUTTALLII	E	
Marshall	VASCULAR PLANTS	OVATE FIDDLELEAF	HYDROLEA OVATA	E	
Marshall	VASCULAR PLANTS	PORCUPINE SEDGE	CAREX HYSTERICINA	H	
Marshall	VASCULAR PLANTS	SMALL SUNDROPS	OENOTHERA PERENNIS	E	
Marshall	VASCULAR PLANTS	SWAMP CANDLES	LYSIMACHIA TERRESTRIS	E	
Marshall	VASCULAR PLANTS	TALL HAIRY GROOVEBUR	AGRIMONIA GRYPOSEPALA	T	
Marshall	VASCULAR PLANTS	TREPOCARPUS	TREPOCARPUS AETHUSAE	T	
Marshall	VASCULAR PLANTS	WATER HICKORY	CARYA AQUATICA	T	
McCracken	AMPHIBIANS	GREEN TREEFROG	HYLA CINEREA	S	
McCracken	AMPHIBIANS	NORTHERN CRAWFISH FROG	RANA AREOLATA CIRCULOSA	S	
McCracken	AMPHIBIANS	THREE-TOED AMPHIUMA	AMPHIUMA TRIDACTYLUM	E	
McCracken	BIRDS	BACHMAN'S SPARROW	AIMOPHILA AESTIVALIS	E	
McCracken	BIRDS	BANK SWALLOW	RIPARIA RIPARIA	S	
McCracken	BIRDS	BARN OWL	TYTO ALBA	S	
McCracken	BIRDS	BELL'S VIREO	VIREO BELLII	S	
McCracken	BIRDS	FISH CROW	CORVUS OSSIFRAGUS	S	
McCracken	BIRDS	GREAT BLUE HERON	ARDEA HERODIAS	S	
McCracken	BIRDS	HOODED Merganser	LOPHODYTES CUCULLATUS	T	
McCracken	BIRDS	MISSISSIPPI KITE	ICTINIA MISSISSIPPIENSIS	S	
McCracken	BIRDS	SHARP-SHINNED HAWK	ACCIPITER STRIATUS	S	
McCracken	BIVALVES	BLEUFER	POTAMILUS PURPURATUS	E	
McCracken	BIVALVES	FAT POCKETBOOK	POTAMILUS CAPAX	E	LE
McCracken	BIVALVES	LONGSOLID	FUSCONAIA SUBROTUNDA SUBROTUNDA	S	
McCracken	BIVALVES	ORANGEFOOT PIMPLEBACK	PLETHOBASUS COOPERIANUS	E	LE
McCracken	BIVALVES	PINK MUCKET	LAMPSILIS ABRUPTA	E	LE
McCracken	BIVALVES	POCKETBOOK	LAMPSILIS OVATA	E	
McCracken	BIVALVES	PYRAMID PIGTOE	PLEUROBEMA RUBRUM	E	
McCracken	BIVALVES	RABBITSFOOT	QUADRULA CYLINDRICA CYLINDRICA	T	
McCracken	BIVALVES	RING PINK	OBOVARIA RETUSA	E	LE
McCracken	BIVALVES	SHEEPNOSE	PLETHOBASUS CYPHYUS	S	
McCracken	CRUSTACEANS	A CRAYFISH	ORCONECTES LANCIFER	E	
McCracken	CRUSTACEANS	A DWARF CRAYFISH	CAMBARELLUS PUER	E	
McCracken	FISHES	ALLIGATOR GAR	ATRACTOSTEUS SPATULA	E	
McCracken	FISHES	BLACK BUFFALO	ICTIOBUS NIGER	S	
McCracken	FISHES	BLACKTAIL SHINER	CYPRINELLA VENUSTA	S	
McCracken	FISHES	BURBOT	LOTA LOTA	S	
McCracken	FISHES	CENTRAL MUDDMINNOW	UMBRA LIMI	T	

County Name	Element Class	Common Name	Scientific Name	KSNPO Status	Conservation Status
McCracken	FISHES	CHAIN PICKEREL	ESOX NIGER	S	
McCracken	FISHES	CHESTNUT LAMPREY	ICHTHYOMYZON CASTANEUS	S	
McCracken	FISHES	CYPRESS DARTER	ETHEOSTOMA PROELIARE	T	
McCracken	FISHES	CYPRESS MINNOW	HYBOGNATHUS HAYI	E	
McCracken	FISHES	INLAND SILVERSIDE	MENIDIA BERYLLINA	T	
McCracken	FISHES	LAKE CHUBSUCKER	ERIMYZON SU CETTA	T	
McCracken	FISHES	LAKE STURGEON	ACIPENSER FULVESCENS	E	
McCracken	FISHES	NORTHERN MADTOM	NOTURUS STIGMOSUS	S	
McCracken	FISHES	REDSPOTTED SUNFISH	LEPOMIS MINIATUS	T	
McCracken	FISHES	TAILLIGHT SHINER	NOTROPIS MACULATUS	T	
McCracken	GASTROPODS	ARMORED ROCKSNAIL	LITHASIA ARMIGERA	S	
McCracken	GASTROPODS	ONYX ROCKSNAIL	LEPTOXIS PRAEROSA	S	
McCracken	GASTROPODS	ORNATE ROCKSNAIL	LITHASIA GENICULATA	S	
McCracken	GASTROPODS	VARICOSE ROCKSNAIL	LITHASIA VERRUCOSA	S	
McCracken	INSECTS	NORTHERN HAIRSTREAK	SATYRIUM FAVONIUS ONTARIO	S	
McCracken	MAMMALS	EVENING BAT	NYCTICEIUS HUMERALIS	T	
McCracken	MAMMALS	INDIANA MYOTIS	MYOTIS SODALIS	E	LE
McCracken	MAMMALS	SOUTHEASTERN MYOTIS	MYOTIS AUSTRORIPARIUS	E	
McCracken	PALUSTRINE COMMUNITI		FLOODPLAIN RIDGE/TERRACE FOREST	N	
McCracken	PALUSTRINE COMMUNITI		WET PRAIRIE	N	
McCracken	REPTILES	ALLIGATOR SNAPPING TURTLE	MACROCLEMYS TEMMINCKII	T	
McCracken	REPTILES	EASTERN RIBBON SNAKE	THAMNOPHIS SAURITUS SAURITUS	S	
McCracken	REPTILES	MIDLAND SMOOTH SOUTHSHELL	APALONE MUTICA MUTICA	S	
McCracken	VASCULAR PLANTS	BRANCHED THREE-AWN GRASS	ARISTIDA RAMOSISSIMA	H	
McCracken	VASCULAR PLANTS	BROAD-LEAF GOLDEN-ASTER	HETEROTHECA SUBAXILLARIS VAR LATIFOLIA	T	
McCracken	VASCULAR PLANTS	BUCKLEY'S GOLDENROD	SOLIDAGO BUCKLEYI	S	
McCracken	VASCULAR PLANTS	COMPASS PLANT	SILPHIUM LACINIATUM VAR ROBINSONII	T	
McCracken	VASCULAR PLANTS	CREAM WILD INDIGO	BAPTISIA BRACTEATA VAR LEUCOPHAEA	S	
McCracken	VASCULAR PLANTS	CREeping ST. JOHN'S-WORT	HYPERICUM ADPRESSUM	H	
McCracken	VASCULAR PLANTS	HAIR GRASS	MUHLENBERGIA GLABRIFLORIS	S	
McCracken	VASCULAR PLANTS	MOUNTAIN SILVER-BELL	HALESIA TETRAPTERA	E	
McCracken	VASCULAR PLANTS	ONE-FLOWER FIDDLELEAF	HYDROLEA UNIFLORA	S	
McCracken	VASCULAR PLANTS	PORCUPINE SEDGE	CAREX HYSTERICINA	H	
McCracken	VASCULAR PLANTS	RED BUCKEYE	AESCULUS PAVIA	T	
McCracken	VASCULAR PLANTS	ROSE TURTLEHEAD	CHELONE OBLIQUA VAR SPECIOSA	S	
McCracken	VASCULAR PLANTS	ROUGH RATTLESNAKE-ROOT	PRENANTHES ASPERA	E	
McCracken	VASCULAR PLANTS	SNOW MELANTHERA	MELANTHERA NIVEA	S	
McCracken	VASCULAR PLANTS	SOUTHERN CRABAPPLE	MALUS ANGUSTIFOLIA	S	
McCracken	VASCULAR PLANTS	SWEET CONEFLOWER	RUDBECKIA SUBTOMENTOSA	E	

County List

3/6/02

County Name	Element Class	Common Name	Scientific Name	SNPC Status	Uses a Status
McCracken	VASCULAR PLANTS	TALL BUSH-CLOVER	LESPEDEZA STUEVEI	S	
McCracken	VASCULAR PLANTS	TEXAS ASTER	ASTER DRUMMONDII VAR TEXANUS	T	
McCracken	VASCULAR PLANTS	TURK'S CAP LILY	LILIUM SUPERBUM	T	
McCracken	VASCULAR PLANTS	VETCHLING PEAVINE	LATHYRUS PALUSTRIS	T	
McCracken	VASCULAR PLANTS	WATER HICKORY	CARYA AQUATICA	T	



COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601
MEMORANDUM

TO: Alex Barber
State Environmental Review Officer
Department for Environmental Protection

FROM: Timothy Kuryla *TK*
EIS Coordinator
Division of Water

DATE: April 4, 2002

SUBJECT: SN, I-66, Possible Alignments (Ballard, Carlisle, Graves, McCracken, and Marshall Counties), SERO 020205-011

IN GENERAL

The Division of Water has reviewed the Scoping Notice prepared by the Transportation Cabinet regarding possible alignments for the construction of I-66 (Ballard, Carlisle, Graves, McCracken, and Marshall Counties). The Division comments on matters the Division desires considered in the Environmental Assessment.

The applicant needs to consult, before construction can begin, with the U.S. Army Corps of Engineers to ascertain if a 33 USC § 1341 ("401") water quality certification by the Division of Water, or a 33 USC § 1344 ("404") dredge or fill material permit, or both, are required. Any impact to 200 linear feet or more of any stream or stream bank (below ordinary highwater) (as shown on U.S. Geological Survey 7.5 minute topographical maps for the project area) or one acre or more of any wetland, will require a "401" water quality certification. This includes excavations and impoundments.

Stream crossings except for Outstanding Resource Waters (ORWs), Cold water Aquatic Habitats (CAHs), and high quality waters are covered by a general certification. ORW, CAH, and high quality water stream crossings require an individual water quality certification and mitigation.

If a floodplain outside the right of way is involved, prior approval must be obtained from the Division of Water before construction may begin. The EA needs to address the impacts on flooding of each stream crossing, all fills in floodplains, and any channel relocation or alteration.



The submitted data are general. With specific data as are found in the Transportation Cabinet Land and Water Ecology Section "404" checklist, plus Corps of Engineers or Coast Guard Public Notice, the Division of Water may find a problem relating to floodplain construction and water quality. Therefore, the Division requests an opportunity to review, at the Preliminary Design stage, the land and water ecology checklist for the proposed project should it be funded. (If a Public Notice is prepared for the proposed project, the Division will review it).

The Division of Water notes the relevant portions of the Transportation Cabinet's Standard Specifications for Road and Bridge Construction are Sections 212 and 213. Section 212 governs the protection and stabilization of those areas exposed to erosion as the result of construction practices. Section 213 protects water quality by governing construction practices that can result in nonpoint source pollution.

The Division of Water finds that these guidelines adequately address possible highway construction impacts on aquatic habitat and propose appropriate mitigation measures that insure minimal sediment and other damage to water quality. These sections need to be cited in the EA.

The Division of Water recommends that the Transportation Cabinet use the Groundwater Sensitivity Regions of Kentucky map published by the Kentucky Geological Survey (KGS) to determine sensitive groundwater areas.

If sinkholes are modified for drainage, the Division of Water notes U.S. Environmental Protection Agency (EPA) requires an Underground Injection Control Permit (40 CFR §§ 144.11, 144.25, 146.51). The activity is classified as a Class V well (40 CFR § 144.6).

The Division of Water has data and maps regarding wellhead protection areas located throughout the Commonwealth. Highway design must take into account these areas.

Potable water intakes and wells, and wastewater treatment plant discharges may be affected by proposed alignments. Highway design must take into account these sites.

Owners of onsite wastewater disposal systems must have Groundwater Protection Plans (GPP). Purchasing right of way lands on which these systems are located means assuming the obligations imposed by 401 KAR 5:037.

Deep road cuts can act as "French" drains. These cuts could drain aquifers that are used as domestic and public water supply sources. Highway design needs to take into account the location of these aquifers. The Division of Water maintains data on wells drilled since 1985 and of all wells it inspects.

THIS APPLICATION

The Division of Water observes that Ballard County has several Wildlife Management Areas (WMAs). Swan Pond is classified under 401 KAR 5:031, Section 7(2)(b) as an Outstanding Resource Water (ORW). This category is used where waters support federally threatened and endangered species. There also may be streams in the special use waters listed in 401 KAR 5:030, Section 3. That pond and these streams cannot be degraded in any way and should not be crossed.

JAMES E. BICKFORD
SECRETARY

RECEIVED
TRANSPORTATION CABINET
DIVISION OF PLANNING



PAUL E. PATTON
GOVERNOR

APR 16 10 25 AM

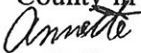
COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

April 12, 2002

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

Re: Early study for possible construction of segment of Interstate Highway 66 (I-66) in Marshall, McCracken, and/or Ballard Counties in Kentucky and Mississippi County in Missouri from I-24 in northwestern Marshall County or McCracken County in Kentucky to I-57 in Mississippi County in Missouri (SERO 2002-11)


Dear Ms. Coffey:

The Natural Resources and Environmental Protection Cabinet (NREPC) serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection **coordinates** the review for Kentucky State Agencies.

The Kentucky agencies listed on the attached sheet have been provided an opportunity to review the above referenced report. Responses were received from 8 (also marked on attached sheet) of the agencies that were forwarded a copy of the document. Attached are the comments from the Kentucky Divisions of Water, Conservation, and Forestry, the Kentucky Nature Preserves Commission, and the Kentucky Department of Fish and Wildlife Resources.

If you should have any questions, please contact me at (502) 564-2150, ext. 112.

Sincerely,



Alex Barber
State Environmental Review officer

Enclosure



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**NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION
CABINET
ENVIRONMENTAL REVIEW**

Early study for possible construction of segment of Interstate Highway 66 (I-66) in Marshall, McCracken, and/or Ballard Counties in Kentucky and Mississippi County in Missouri from I-24 in northwestern Marshall County or McCracken County in Kentucky to I-57 in Mississippi county in Missouri

The following agencies were asked to review the above referenced project. Each agency that returned a response will appear below with their comments and the date the project response was returned.

**C denotes Comments
NC denotes No Comment
IR denotes Information Request
NR denotes No Response**

REVIEWING AGENCIES:

Division of Water _____	comments
Division of Waste Management _____	
Division for Air Quality _____	
Department of Health Services _____	
Economic Development Cabinet _____	ns
Division of Forestry _____	comments
Department of Surface Mining Reclamation & Enforcement _____	nc
Department of Parks _____	nc
Department of Agriculture _____	
Nature Preserves Commission _____	comments
Kentucky Heritage Council _____	
Division of Conservation _____	comments
Department for Natural Resources _____	ns
Department of Fish & Wildlife Resources _____	comments
Transportation Cabinet _____	ns
Department for Military Affairs _____	nc

Barber, Alex (NREPC, DEP)

From: Palmer-Ball, Brainard (NREPC, KSNPC)
Sent: Tuesday, February 26, 2002 10:41 AM
To: Barber, Alex (NREPC, DEP)
Subject: KSNPC responses to KIRPs

TO: Alex Barber, NREPC-DEP, Intergovernmental Review Coordinator

FROM: Brainard Palmer-Ball, Jr., Ky State Nature Preserves Commission

RE: KSNPC responses to KIRPs

DATE: February 26, 2002

RE: Project No. SERO2002-11 (I-66 project planning in western Kentucky)

KSNPC has reviewed the project summary and notes the presence of several rare species issues concerning placement of the road through this region. A more detailed response has been forwarded directly to the Kentucky Transportation Cabinet responding to this plan.



COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR NATURAL RESOURCES
DIVISION OF CONSERVATION
663 TETON TRAIL
FRANKFORT, KENTUCKY 40601

MEMORANDUM

TO: Alex Barber, Department of Environmental Protection

FROM: Mark Davis, Division of Conservation *MD*

DATE: March 4, 2002

SUBJECT: Environmental Review Project #SER02002-11

As requested, the Division of Conservation has reviewed the possible construction of a segment of Interstate Highway 66 (I 66) in Marshall, McCracken, and/or Ballard Counties in Kentucky.

There are 27 agricultural districts certified by the Kentucky Soil and Water Conservation Commission located in the project area. Six are in Ballard County, five in Carlisle County, and sixteen in McCracken County (see enclosed map). These agricultural districts were established in order to conserve, protect, develop, and improve agricultural land for production of food, fiber, and other agricultural products. Under KRS 262.850(12), state agencies must mitigate any impact their programs may have on land in agricultural districts.

In addition to the location of these agricultural districts, the loss of farmland is an issue. Both prime farmland and farmland of statewide importance would be impacted by this project. Every year pressure imposed by utility right-of-ways, urban expansion, and new roads reduce the land available for agricultural use in the Commonwealth. Documents that could be utilized to identify these farmland designations are the *Soil Survey of Ballard and McCracken Counties* (NRCS 1976), the *Soil Survey of Carlisle and Hickman Counties* (NRCS 1997) and *Important Farmland Soils of Kentucky* (NRCS 1985). All are available through this office.

One other concern we would like to comment on is the control of erosion and sedimentation during and after earth-disturbing activities when this project begins. We recommend best management practices(BMPs) be utilized to prevent nonpoint source water pollution. This would protect the water quality and aquatic habitat of several perennial and intermittent streams that this project could impact. The manual, Best Management Practices for Construction Activities, contains information on the kinds of BMPs most appropriate for this project and is available through the Ballard, McCracken, or Carlisle County Conservation Districts and this office.

MJD/ach
Enclosure



**NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
ENVIRONMENTAL REVIEW
TRANSMITTAL**

Date: February 5, 2002

Project Number: SERO2002-11

Title: Early study for possible construction of segment of Interstate Highway 66 (I-66) in Marshall, McCracken, and/or Ballard Counties in Kentucky and Mississippi County in Missouri from I-24 in northwestern Marshall County or McCracken County in Kentucky to I-57 in Mississippi county in Missouri

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

Comment Deadline: March 5, 2002

The Natural Resources and Environmental Protection Cabinet serves as the state clearinghouse for environmental review for Kentucky State Government. Comments received from your agency are forwarded with all other state agency comments to the originating sponsor. If your agency is unable to meet the comment deadline listed above, please contact Alex Barber at (502) 564-2150 extension 112 prior to the due date and suitable arrangements will be made.

Review Instructions:

Please review the enclosed document carefully, bearing in mind the quality of the statement and the impact of the project. If the document is the Final EIS, consider the response made to your own and other agency's previous comments. Retain a copy of this form for your own files and return one with your comments to:

Department for Environmental Protection

Commissioner's Office

Attn: Alex Barber

14 Reilly Road

Frankfort, Kentucky 40601

Response:

- ☒ Comments Attached
☐ No Comment
☐ Information Request

Name: MARK DAVIS

Date: March 5, 2002

Agency: Conservation

Phone: 564-3080

DIVISION OF
CONSERVATION

FEB 8 8 26 AM '02

RECEIVED



United States Department of the Interior

FISH AND WILDLIFE SERVICE

446 Neal Street
Cookeville, TN 38501

May 21, 2002

Mr. Ed Hartowicz
Third Rock Consultants
2514 Regency Road, Suite 104
Lexington, Kentucky 40503

Dear Mr. Hartowicz:

Thank you for your letter and enclosures of April 1, 2002, concerning the I-66 potential corridor study in Ballard, McCracken, and Marshall Counties, Kentucky. The project involves a Strategic Corridor Planning Study to examine potential corridors for the proposed I-66 highway. Fish and Wildlife Service personnel have reviewed the information submitted and offer the following comments.

According to our records, the following threatened and endangered species are known to occur in the affected counties, and may occur in the project impact area:

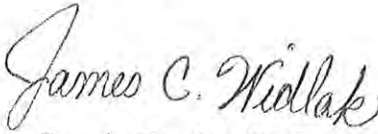
Indiana bat - Myotis sodalis
Bald eagle - Haliaeetus leucocephalus
Least tern - Sterna antillarum athalassos
Orange-footed pearly mussel - Plethobasus cooperianus
Ring pink - Obovaria retusa
Tubercled-blossom pearly mussel - Epioblasma torulosa torulosa
Pink mucket pearly mussel - Lampsillis orbiculata
Rough pigtoe - Pleurobema plenum
Clubshell - Pleurobema clava
Fat pocketbook - Potamilus capax
Fanshell - Cyprogenia stegaria
Pallid sturgeon - Scaphirhynchus albus

You should assess potential impacts and determine if the proposed project may affect these species. A finding of "may affect" could require initiation of formal consultation. We would appreciate a copy of any survey report on these species done for this project, as well as your determination of effect.

In addition to the federally listed species, there are known records for the Alabama shad (*Alosa alabamae*), sturgeon chub (*Hybopsis gelida*), and sicklefin chub (*Hybopsis meeki*) in the vicinity of the proposed project. These species are candidates for listing. They are not legally protected under the Act at this time, and consultation and biological assessment requirements of Section 7 of the Act do not currently apply to them. However, we would appreciate any measures you might implement to avoid impacting these rare fish.

Thank you for the opportunity to comment on this proposal. Please contact Timothy Merritt (telephone 931/528-6481, ext. 211, or email timothy_merritt@fws.gov) of my staff if you have questions regarding the information provided in this letter.

Sincerely,


for Lee A. Barclay, Ph.D.
Field Supervisor

xc: Mr. Wayne Davis, KDFWR, Frankfort, KY
Mr. Eric Somerville, EPA, Atlanta, GA
Mr. Jeff Grubbs, KDOW, Frankfort, KY

U.S. Department
of TransportationUnited States
Coast GuardCommander
Eighth Coast Guard District1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314) 539-3900x2382
FAX: (314) 539-3755
Email: dorzechowski@cgstl.uscg.mil16591.1/942.0 LMR
15 January 2003Ms. Annette Coffey, P.E.
Director, Division of Planning (A-2)
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622Subj: PROPOSED NEW I-66 HIGHWAY BRIDGE, MILE 954.0 - 948.0,
~~LOWER MISSISSIPPI RIVER, AND MILE 977.0 OHIO RIVER~~

Dear Ms. Coffey:

Please refer to your letter dated 2 January 2003 concerning the subject bridge.

The Coast Guard is the sole agency tasked with the responsibility for permitting bridges across navigable waters of the United States. This responsibility includes evaluating the impacts of the bridge from a navigational standpoint, determining the proper location for the piers and the required navigational clearances. Since the Lower Mississippi River is a navigable waterway, a Coast Guard Bridge permit will be required.

I appreciate the opportunity to provide navigational input in the early stages of project development. We have initiated our review of the navigational requirements for the new bridge crossings described in the enclosures to your letter. There appear to be four as follows:

1. A new bridge at Mile 948.0, Lower Mississippi River
2. A new bridge at Mile 951.0, Lower Mississippi River.
3. A new bridge at Mile 952.0, Lower Mississippi River.
4. A new bridge at Mile 977.0, Ohio River.

I expect to have the pier location and navigational requirements established within 30 days. At that time I will notify you of our findings. We look forward to working with you and your staff on this very important project. You can contact Mr. David Orzechowski at (314) 539-3900, Ext. 2382 to discuss this project.

Sincerely,

ROGER K. WIEBUSCH

Bridge Administrator

By direction of the District Commander

2003 JAN 21 A 10:39

DIV OF PLANNING

TO: MARGARET WIEBUSCH	FROM: 21 JAN 03	DATE: 1/21/03
FAX #: 502-456-1323	PHONE #: 504-7183	PAGES INCLUDING THIS PAGE: 1
TOPG 1408		

U.S. Department
of Transportation

United States
Coast Guard



Commander
Eighth Coast Guard District

DIV OF PLANNING

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: ohr
Phone: (314)539-3900x2382
FAX: (314)539-3755
Email: dorzechowski@cgstl.uscg.mil

2003 FEB 18 A 11: 29

16591.1/948.0 LMR
13 February 2003

Ms. Annette Coffey, P.E.
Director, Division of Planning (A-2)
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Subj: PROPOSED NEW I-66 HIGHWAY BRIDGE, MILE 954.0 – 948.0,
LOWER MISSISSIPPI RIVER

Dear Ms. Coffey:

Please refer to our letter dated 15 January 2003 concerning the proposed subject bridge.

The Coast Guard has reviewed and determined navigational requirements along with pier locations for the four potential crossing alternatives under consideration, i.e.: Mile 948.0, 951.0 or 952.0 Lower Mississippi River (LMR) and mile 977.0 Ohio River (OHR).

From a navigational viewpoint, a bridge crossing at mile 977.0 OHR is the most desired. At this location it would be near the existing Illinois Central Railroad Bridge at mile 977.7. This would require the right descending pier being located on the Illinois bank and the left descending pier being far enough out to span both of the railroad spans customarily used by river navigation. A 1500-foot horizontal clearance would be required to safely meet the needs of navigation.

An acceptable alternative crossing would be located at mile 948.0 LMR. At this location the right descending pier would be located on the Missouri bank with the left descending pier being placed behind the dikefield. A 1500+ foot horizontal clearance will be required to safely meet the needs of navigation at this location.

A bridge crossing over the LMR is not recommended at any location from the confluence downstream to mile 949.5. This is due to large tows moving in both directions from the three rivers in a series of gradual bends and would provide the greatest impediment to navigation. Vessels transiting in this stretch of the river are in what navigation refers to as a "slick turn". This term refers to the river current continually pushing you towards the left descending bank all the while you are steering towards the right descending bank to where the navigational channel proceeds to cross over the center of the river towards the right descending side. Also, the effects of high and low water are a continuing condition that affects needed sailing line for large tows.

16591.1/948.0 LMR
13 February 2003

Subj: PROPOSED NEW I-66 HIGHWAY BRIDGE, MILE 954.0 – 948.0,
LOWER MISSISSIPPI RIVER

I appreciate the opportunity to make comments regarding the needed navigation clearances early in the design process. Should you have any questions, please contact Mr. David Orzechowski at (314) 539-3900, Ext. 2382 to discuss this project.

Sincerely,

A handwritten signature in dark ink, appearing to read 'R. Wiebusch', is written over a rectangular stamp.

ROGER K. WIEBUSCH

Bridge Administrator

By direction of the District Commander

FISH & WILDLIFE COMMISSION

Mike Boatwright, Paducah
Tom Baker, Bowling Green, Chairman
Allen K. Gailor, Louisville
Charles E. Bale, Hodgenville
Dr. James R. Rich, Taylor Mill
Ben Frank Brown, Richmond
Doug Hensley, Hazard
Dr. Robert C. Webb, Grayson
David H. Godby, Somerset



**COMMONWEALTH OF KENTUCKY
DEPARTMENT OF FISH AND WILDLIFE RESOURCES**

C. THOMAS BENNETT, COMMISSIONER

April 8, 2002

Ed Hartowicz
Third Rock Consultants
2514 Regency Road, suite 104
Lexington, KY 40503

Re: Threatened/Endangered species review: I-66 Potential Corridor Study, Ballard,
McCracken, and Marshall Counties, Kentucky

Dear Mr. Hartowicz:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System indicates that federally threatened or endangered species are known to occur in the above referenced counties (see attached sheets). Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

Based on the information and map provided, KDFWR cannot determine the extent of impacts to fish and wildlife resources without knowing the extent of the proposed project. When further information is available to our agency we can make a final determination regarding environmental impacts.

The KDFWR also recommends the following for any portion of the project that will be instream or near streams:

1. Development/excavation during a low flow period to minimize disturbance;
2. Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt to the stream;
3. Replanting of disturbed areas after construction, including stream banks and right-of-ways, with native vegetation for soil stabilization and enhancement of fish and wildlife populations;
4. Return all disturbed instream habitat to its original condition upon completion of construction in the area, and;
5. Preservation of tree canopy overhanging the stream.

I hope this information will be helpful to you. Should you require additional information, please contact me at (502) 564-7109, ext. 367.

Sincerely,

Marla T. Barbour
Fisheries Biologist III

cc: Environmental Section File



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

Federally Threatened & Endangered Species Reported from McCracken County

Common Name	Scientific Name	Status Code	Reference
ring pink	Obovaria retusa (Lamarck, 1819)	101,601,223	Reference
Indiana myotis	Myotis sodalis Miller and Allen, 1928	223, 101, 108, 601	Reference

KFWIS HOME

Federally Threatened & Endangered Species Reported from Ballard County

Common Name	Scientific Name	Status Code	Reference
interior least tern	<i>Sterna antillarum athalassos</i> (undescribed)	223,101,121,601	Reference
Indiana myotis	<i>Myotis sodalis</i> Miller and Allen, 1928	223, 101, 108, 601	Reference
bald eagle	<i>Haliaeetus leucocephalus</i> (Linnaeus, 1766)	223,101,121,601,102	Reference
orange-foot pimpleback	<i>Plethobasus cooperianus</i> (I. Lea, 1834)	101,601,223	Reference

[KFWIS HOME](#)

Federally Threatened & Endangered Species Reported from Marshall County

Common Name	Scientific Name	Status Code	Reference
ring pink	Obovaria retusa (Lamarck, 1819)	101,601,223	Reference
fanshell	Cyprogenia stegaria (Rafinesque, 1820)	101,601,223	Reference
pink mucket	Lampsilis abrupta (Say, 1831)	601,101,223	Reference
orange-foot pimpleback	Plethobasus cooperianus (I. Lea, 1834)	101,601,223	Reference

[KFWIS HOME](#)

Initial BCD EOR Export Date: 4/16/02



DONALD S. DOTT, JR.
DIRECTOR



PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
KENTUCKY STATE NATURE PRESERVES COMMISSION

801 SCHENKEL LANE
FRANKFORT, KENTUCKY 40601-1403
(502) 573-2886 VOICE
(502) 573-2355 FAX

April 23, 2002

Ed Hartowicz
Third Rock Consultants
2514 Regency Road, Suite 104
Lexington, KY 40503

Data Request **02-165**

Dear Mr. Hartowicz:

This letter is in response to your data request of April 2, 2002 for the I-66 Potential Corridor Study, Ballard and McCracken Counties, Kentucky, KYTC Item 1-23.00 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 Ballard, McCracken and a portion of Marshall County. Based on our most current information, we have determined that 366 occurrences of the plants or animals and 3 occurrences of the exemplary natural communities that are monitored by KSNPC are reported as occurring in the specified area.

Please see the attached reports and maps for more information about the species and communities that are known to occur in this area. The information is provided without specific location information for the occurrences, as we understand that this is a general planning study. The map provided shows the locations of species and communities so that it may be easier to see concentrations of occurrences.

There are several Wildlife Management Areas and Nature Preserves shown on the attached map. There are still significant natural areas, wetlands, and large forest blocks which are not under management or protection at this time in the Barlow Bottoms area of Ballard County that are not shown on this map. Please contact us if more information is needed.

I would like to take this opportunity to remind you of the terms of the data request license,



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

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.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Sara Hines", written in a cursive style.

Sara Hines
Data Manager

Enclosures: Data Reports and Interpretation Keys
GIS Map of element occurrences and managed areas

DONALD S. DOTT, JR.
DIRECTOR



PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
KENTUCKY STATE NATURE PRESERVES COMMISSION

801 SCHENKEL LANE
FRANKFORT, KENTUCKY 40601-1403
(502) 573-2886 VOICE
(502) 573-2355 FAX

INVOICE

April 23, 2002

Ed Hartowicz
Third Rock Consultants
2514 Regency Road, Suite 104
Lexington, KY 40503

Purchase Order Number _____

Data Request 02-165

This letter is an invoice for the amount of \$ 105.00 for data services requested in your letter of April 2, 2002 for the I-66 Potential Corridor Study, Ballard and McCracken Counties, Kentucky, KYTC Item 1-23.00 project. Please make payment to the Kentucky Nature Preserves Fund, and include the data request number on the payment.

Please contact us if we can be of further assistance.



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

DONALD S. DOTT, JR.
DIRECTOR



PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
KENTUCKY STATE NATURE PRESERVES COMMISSION

801 SCHENKEL LANE
FRANKFORT, KENTUCKY 40601-1403
(502) 573-2886 VOICE
(502) 573-2355 FAX

INVOICE

April 23, 2002

Ed Hartowicz
Third Rock Consultants
2514 Regency Road, Suite 104
Lexington, KY 40503

Purchase Order Number _____

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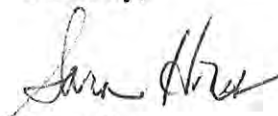
AN EQUAL OPPORTUNITY EMPLOYER M/F/D

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

Sincerely,

A handwritten signature in black ink, appearing to read "Sara Hines", written over a light gray rectangular background.

Sara Hines
Data Manager

Enclosures: Data Reports and Interpretation Keys
 GIS Map of element occurrences and managed areas

MACODE	MANAGED AREA NAME	OWNER CODE	MANAGED AREA TYPE	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	NORTH LAT	SOUTH LAT	EAST LONG	WEST LONG	KENTUCKY ACREAGE	MANAGER	MANAGER AGENCY	MANAGER PHONE
MUSKYHP*18	AXE LAKE STATE NATURAL AREA	PPF	PPFHS	Ballard	BARLOW, KY.-ILL.	370440N	0890505W	370504N	370414N	0890429W	0890559W	385			
MUSKYHP*112	AXE LAKE SWAMP STATE NATURE PRESERVE	SKN	SKNPR	Ballard	BARLOW, KY.-ILL.	370835N	0890445W	370413N	370321N	0890433W	0890457W	458	JOYCE BENDER	KENTUCKY STATE NATURE PRESERVES COMMISSION	502 573-2886
MUSKYHP*325	BALLARD WILDLIFE MANAGEMENT AREA	SKW	SKWMM	Ballard	OLMSTED, ILL.-KY.; BARLOW, KY.-ILL.	370930N	0890345W	371150N	370623N	0890024W	0890542W	8373	CHARLIE WILKINS	DEPARTMENT OF FISH AND WILDLIFE RESOURCES	502 224-2244
MUSKYHP*285	BARLEY PRAIRIE STATE NATURAL AREA	PPC	PPCHS	McCracken	HEATH, KY.	370405N	0884557W	370408N	370402N	0884554W	0884600W	8			
MUSKYHP*1456	BARLOW BOTTOMS WILDLIFE MANAGEMENT AREA	SKW	SKWMM	Ballard	BARLOW, KY.-ILL.	370530N	0890610W	370544N	370509S	0890555E	0890630W	150	KENTUCKY DEPARTMENT OF FISH AND WILDLIFE RESOURCES	KENTUCKY DEPARTMENT OF FISH AND WILDLIFE RESOURCES	
MUSKYHP*69	BAYOU CREEK RIDGE STATE NATURAL AREA	FTV	SKWMS	McCracken	JOPPA, ILL.-KY.	371025N	0884625W	371042N	371005N	0884757W	0884605W	150	CHARLES LOGSDON	DEPARTMENT OF FISH AND WILDLIFE RESOURCES	502 488-3233
MUSKYHP*949	CYPRESS CREEK SWAMP NATURE PRESERVE	PNC	PNCPR	Marshall	BRIENSBURG, KY.	365830N	0881830W	365848N	365755N	0881815W	0881904W	294	JIM ALDRICH	THE NATURE CONSERVANCY	606 259-9655
MUSKYHP*155	KENTUCKY DAM VILLAGE STATE RESORT PARK	MUL	SKPSP	Marshall	CALVERT CITY, KY.; BRIENSBURG, KY.	370010N	0881745W	370102N	365843N	0881644W	0881827W	1351	FRANK WAGGONER	DEPARTMENT OF PARKS	502 362-4271
MUSKYHP*27	KENTUCKY RESERVOIR	FTV	FTVRV	Marshall; Calloway; Tigg ; Lyon	CALVERT CITY, KY.; HAMLIN, KY.- TENN.; NEW CONCORD, KY.; RUSHING CREEK, KY.-TENN.; HICO, KY.; FENTON, KY.; FAIRDEALING, KY.; MONT, KY.; BIRMINGHAM POINT, KY.; BRIENSBURG, KY.; GRAND RIVERS, KY.; PARIS LANDING, TENN.-KY.	370000N	0881500W	370159N	362950N	0880157W	0881759W	57504	LARRY FIELDING	TENNESSEE VALLEY AUTHORITY	901 642-2041
MUSKYHP*172	METROPOLIS LAKE OUTSTANDING RESOURCE WATER	MUL	SDWOR	McCracken	JOPPA, ILL.-KY.	370855N	0884600W						ROBERT WARE	DIVISION OF WATER	502 564-3410
MUSKYHP*184	METROPOLIS LAKE STATE NATURAL AREA	FTV	FTVBS	McCracken	JOPPA, ILL.-KY.	370904N	0884614W	370904N	370903N	0884613W	0884615W	2	L DARRYL ARMASTRONG	TENNESSEE VALLEY AUTHORITY	502 886-3398
MUSKYHP*148	METROPOLIS LAKE STATE NATURE PRESERVE	SKN	SKNPR	McCracken	JOPPA, ILL.-KY.	370850N	0884600W	370905N	370838N	0884539W	0884623W	123	JOYCE BENDER	KENTUCKY STATE NATURE PRESERVES COMMISSION	502 573-2886
MUSKYHP*280	OHIO RIVER OUTSTANDING RESOURCE WATER (BALLARD CO)	PPF	SDWOR	Ballard	OLMSTED, ILL.-KY.; BARLOW, KY.-ILL.	370846N	0890530W						ROBERT WARE	DIVISION OF WATER	502 564-3410

Standard Managed Area Report
Managed Areas Reported For The I-66 Potential Corridor Study, Ballard McCracken Counties.

KSNPC Data Request 02-165

MACODE	MANAGED AREA NAME	OWNER CODE	MANAGED AREA TYPE	COUNTY	7.5 MINUTE QUADRANGLE	LAT	LONG	NORTH LAT	SOUTH LAT	EAST LONG	WEST LONG	KENTUCKY ACREAGE	MANAGER	MANAGER AGENCY	MANAGER PHONE
MUSKYP120	OHIO RIVER OUTSTANDING RESOURCE WATER (MCCRACKEN CO)	PP	SDWOR	McCracken	METROPOLIS, ILL.-KY.	370815N	0884305W						ROBERT WARE	DIVISION OF WATER	502 564-3410
MUSKYP211	PEAL WILDLIFE MANAGEMENT AREA	SKW	SKWMM	Ballard	BARLOW, KY.-ILL.; WICKLIFFE, KY.-MO.	370245N	0890545W	370337N	365837N	0890458W	0890652W	2019	CHARLIE WILKINS	DEPARTMENT OF FISH AND WILDLIFE RESOURCES	502 224-2244
MUSKYP71	SHAWNEE STEAM PLANT	FTV	FTVPP	McCracken	JOPPA, ILL.-KY.; PADUCAH WEST, KY.-ILL.; HEATH, KY.	370900N	0884600W	371048N	370704N	0884458W	0884925W	2677	A.W. SEABAUGH	TENNESSEE VALLEY AUTHORITY	502 443-3626
MUSKYP78	SWAN LAKE OUTSTANDING RESOURCE WATER	SKW	SDWOR	Ballard	BARLOW, KY.-ILL.	370045N	0890700W						ROBERT WARE	DIVISION OF WATER	502 564-3410
MUSKYP289	SWAN LAKE WILDLIFE MANAGEMENT AREA	SKW	SKWMM	Ballard	BARLOW, KY.-ILL.; CAIRO, ILL.-KY.-MO.	370130N	0890730W	370302N	370012N	0890712W	0890900W	2536	CHARLIE WILKINS	DEPARTMENT OF FISH AND WILDLIFE RESOURCES	502 224-2244
MUSKYP229	TENNESSEE RIVER MUSSEL SANCTUARY	MUL	SKWMS	Marshall/Livingston	CALVERT CITY, KY.	370200N	0881740W	370331N	370040N	0881600W	0881947W	700	PETE PFEIFER	DEPARTMENT OF FISH AND WILDLIFE RESOURCES	502 564-3596
MUSKYP176	TENNESSEE RIVER OUTSTANDING RESOURCE WATER	MUL	SDWOR	Livingston/Marshall	CALVERT CITY, KY.; LITTLE CYPRESS, KY.-ILL.	370330N	0881950W						ROBERT WARE	DIVISION OF WATER	502 564-3410
MUSKYP91	WEST KENTUCKY WILDLIFE MANAGEMENT AREA	MUL	SKWMM	McCracken	JOPPA, ILL.-KY.; HEATH, KY.	370745N	0884800W	371048N	370504N	0884553W	0885113W	6969	CHARLES LOGSDON	DEPARTMENT OF FISH AND WILDLIFE RESOURCES	502 488-3233
MUSKYP15	WICKLIFFE MOUNDS ARCHAEOLOGICAL SITE	SMS	SMSPR	Ballard	WICKLIFFE, KY.-MO.	365815N	0890530W	365819N	365809N	0890522W	0890538W	20	KIT WESLER	MURRAY STATE UNIVERSITY	502 335-3881
MUSKYP83	WINFORD WILDLIFE MANAGEMENT AREA	SKW	SKWMM	Carlisle/Ballard	WICKLIFFE, KY.-MO.	365545N	0890230W	365607N	365527N	0890252W	0890351W	237	CHARLIE WILKINS	DEPARTMENT OF FISH AND WILDLIFE RESOURCES	502 224-2244



Natural Resources Conservation Service
771 Corporate Drive, Suite 210
Lexington, KY 40503-5479

January 10, 2003

Annette Coffey, P.E.
Director
Division of Planning
Transportation Cabinet
125 Holmes Street
Frankfort, KY 40601

Dear Ms. Coffey:

With regard to your letter of January 2, 2003, for I-66, I offer the following:

If the project uses Federal money to convert farmland to nonagricultural uses, either form AD-1006 or form NRCS-CPA-106 should be submitted to each respective county Natural Resources Conservation Service (NRCS) representative. As in your letter, this would be Marshall County and McCracken County, Kentucky. If needed, you may receive the forms from the NRCS field offices. The forms may also be obtained via Internet at http://policy.nrcs.usda.gov/scripts/lpsis.dll/M/M_440_523.htm. The Marshall County District Conservationist is Dianna Angle (270-527-3236, extension 3) and the McCracken County District Conservationist is John Shely (270-554-5242, extension 3).

When sending the forms to the NRCS field office, please ascertain that the routes, alternative routes, etc. are clearly located on topographic maps, soil maps, or other similar scale maps.

Should you have questions, contact State Soil Scientist Bill Craddock at (859) 224-7369.

Sincerely,

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

DAVID G. SAWYER
State Conservationist

cc:

B. Giesecke, NRCS, Madisonville, KY
J. Shely, NRCS, Paducah, KY
D. Angle, NRCS, Benton, KY

U.S. Department
of TransportationUnited States
Coast GuardCommander
Eighth Coast Guard District1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314) 539-3900x2382
FAX: (314) 539-3755
Email: dornichowski@cgstl.uscg.mil16591.1/942.0 LMR
15 January 2003Ms. Annette Coffey, P.E.
Director, Division of Planning (A-2)
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622Subj: PROPOSED NEW I-66 HIGHWAY BRIDGE, MILE 954.0 - 948.0,
~~LOWER MISSISSIPPI RIVER, AND MILE 977.0 OHIO RIVER~~

Dear Ms. Coffey:

Please refer to your letter dated 2 January 2003 concerning the subject bridge.

The Coast Guard is the sole agency tasked with the responsibility for permitting bridges across navigable waters of the United States. This responsibility includes evaluating the impacts of the bridge from a navigational standpoint, determining the proper location for the piers and the required navigational clearances. Since the Lower Mississippi River is a navigable waterway, a Coast Guard Bridge permit will be required.

I appreciate the opportunity to provide navigational input in the early stages of project development. We have initiated our review of the navigational requirements for the new bridge crossings described in the enclosures to your letter. There appear to be four as follows:

1. A new bridge at Mile 948.0, Lower Mississippi River
2. A new bridge at Mile 951.0, Lower Mississippi River.
3. A new bridge at Mile 952.0, Lower Mississippi River.
4. A new bridge at Mile 977.0, Ohio River.

I expect to have the pier location and navigational requirements established within 30 days. At that time I will notify you of our findings. We look forward to working with you and your staff on this very important project. You can contact Mr. David Orzechowski at (314) 539-3900, Ext. 2382 to discuss this project.

Sincerely,

ROGER K. WIEBUSCH

Bridge Administrator

By direction of the District Commander

2003 JAN 21 A 10:39

DIV OF PLANNING

TO: MARGARET WIEBUSCH	FROM: 21 JAN 03	DATE: 1/21/03
FAX #: 502-456-1323	PHONE #: 504-7183	PAGES INCLUDING THIS PAGE: 1
TOPG 1408		

U.S. Department
of Transportation

United States
Coast Guard



Commander
Eighth Coast Guard District

DIV OF PLANNING

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: ohr
Phone: (314)539-3900x2382
FAX: (314)539-3755
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2003 FEB 18 A 11: 29

16591.1/948.0 LMR
13 February 2003

Ms. Annette Coffey, P.E.
Director, Division of Planning (A-2)
Kentucky Transportation Cabinet
125 Holmes Street
Frankfort, KY 40622

Subj: PROPOSED NEW I-66 HIGHWAY BRIDGE, MILE 954.0 – 948.0,
LOWER MISSISSIPPI RIVER

Dear Ms. Coffey:

Please refer to our letter dated 15 January 2003 concerning the proposed subject bridge.

The Coast Guard has reviewed and determined navigational requirements along with pier locations for the four potential crossing alternatives under consideration, i.e.: Mile 948.0, 951.0 or 952.0 Lower Mississippi River (LMR) and mile 977.0 Ohio River (OHR).

From a navigational viewpoint, a bridge crossing at mile 977.0 OHR is the most desired. At this location it would be near the existing Illinois Central Railroad Bridge at mile 977.7. This would require the right descending pier being located on the Illinois bank and the left descending pier being far enough out to span both of the railroad spans customarily used by river navigation. A 1500-foot horizontal clearance would be required to safely meet the needs of navigation.

An acceptable alternative crossing would be located at mile 948.0 LMR. At this location the right descending pier would be located on the Missouri bank with the left descending pier being placed behind the dikefield. A 1500+ foot horizontal clearance will be required to safely meet the needs of navigation at this location.

A bridge crossing over the LMR is not recommended at any location from the confluence downstream to mile 949.5. This is due to large tows moving in both directions from the three rivers in a series of gradual bends and would provide the greatest impediment to navigation. Vessels transiting in this stretch of the river are in what navigation refers to as a "slick turn". This term refers to the river current continually pushing you towards the left descending bank all the while you are steering towards the right descending bank to where the navigational channel proceeds to cross over the center of the river towards the right descending side. Also, the effects of high and low water are a continuing condition that affects needed sailing line for large tows.

16591.1/948.0 LMR
13 February 2003

Subj: PROPOSED NEW I-66 HIGHWAY BRIDGE, MILE 954.0 – 948.0,
LOWER MISSISSIPPI RIVER

I appreciate the opportunity to make comments regarding the needed navigation clearances early in the design process. Should you have any questions, please contact Mr. David Orzechowski at (314) 539-3900, Ext. 2382 to discuss this project.

Sincerely,

A handwritten signature in dark ink, appearing to read 'R. Wiebusch', is written over a rectangular stamp.

ROGER K. WIEBUSCH

Bridge Administrator

By direction of the District Commander



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

February 20, 2003

DIV OF PLANNING
2003 FEB 21 A 10:10

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

RE: **Early Coordination Regarding
Planning Study for I-66 from I-24 in Kentucky to Missouri**

Dear Ms. Coffey:

Thank you for your early coordination with us regarding the above-referenced project. EPA Regions 4, 5, and 7 reviewed the information provided in your letter of January 2, 2003, in accordance with Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. EPA Region 4 is acting as the lead EPA Region for the project at the present time. The purpose of this letter is to provide you with the results of our review, in response to your request for comments on the potential corridors.

Our enclosed preliminary comments pertain to known issues in the geographic area, and are subject to change when more detailed information becomes available. It appears that your screening process identified several priority environmental issues, which will require further evaluation as the project proceeds.

We look forward to reviewing the forthcoming NEPA documents for this project, and a continued productive working relationship with you and the other agencies involved with this project. If you have any questions or need more information, please contact Ramona McConney of my staff at (404) 562-9615.

Sincerely,

Heinz J. Mueller, Chief
Office of Environmental Assessment

**EPA Comments on
Planning Study for I-66 from I-24 in Kentucky to Missouri**

General: We recognize that the maps you provided outline general corridors, which are subject to further study and detailed refinements. Based on the preliminary nature of the maps and information, our comments may change as the project progresses, and more detailed information becomes available.

The NEPA document(s) prepared for this I-66 segment should discuss the status of the adjacent I-66 segments, as well as identify and provide an analysis of different alternative termini locations within the Study Area, in relation to the termini of the neighboring segments. In addition, I-66 traffic impacts on the other roads in the area need to be considered.

Purpose & Need: In order for EPA to fully evaluate the alternatives, the NEPA document should identify the basic underlying transportation problems (deficiencies) or needs between the two logical termini for the segment under consideration.

Traditional traffic data or analysis should be presented to substantiate each identified need. For example: if the problem is congestion, then Level of Service (LOS) data should be presented to support this need. In addition, traffic numbers [e.g., LOS, vehicle miles of travel (VMT), vehicle hours of travel (VHT), etc.], if applicable, for existing (current) and future (20 year) forecasts should also be presented.

The traffic analysis should include projected traffic volumes that would utilize the facility from the connecting portions of the proposed I-66. Although this segment would presumably have independent utility, each segment of the proposed I-66 is envisioned to connect with other segments.

The traffic analysis must include an estimation of additional traffic volumes, particularly truck traffic, that would utilize the proposed I-66. This should include traffic considered as "pass-through" (NAFTA-generated or other national traffic) to the study area, as well as traffic that either originates, or would ultimately end, their destination in the study area. This traffic information should be split out and reported separately.

Alternatives: EPA recommends that the Draft EIS identify a preferred alternative. This minimizes some of the issues associated with rating every action alternative, and enables us to provide a thorough review of the environmental issues associated with the preferred alternative.

The preferred alternative should avoid or minimize adverse impacts, so that the need for mitigation of impacts will be lessened or eliminated. A critical factor of the analysis of alternatives is the avoidance or minimization of adverse impacts. When alternatives are rejected, a rationale for rejection should be provided. The rationales should include environmental reasons, along with other considerations. As part of the NEPA process, the no-action alternative must also be carefully evaluated.

The Alternates/Corridors which include new routes and new bridging would result in impacts to the environment. Such impacts should be carefully evaluated, and avoidance and/or mitigation measures, and their feasibility, should be considered throughout the NEPA process.

Alternate/Corridor 20: We concur that rebadging existing Interstate I-24 as I-66 apparently would result in the fewest environmental impacts of the alternatives/corridors under

consideration. Secondary and cumulative impacts should also be considered when evaluating this alternative.

Secondary and Cumulative Impacts: NEPA requires the analysis and disclosure of the direct, secondary and cumulative impacts of major federal actions on the environment. While the direct impacts of transportation projects may or may not be significant, the secondary or indirect effects of the project on land use, and the subsequent environmental effects, can be both temporally and geographically more extensive.

With respect to transportation projects, such as the proposed I-66, which both appear to serve and induce land use changes, the analysis of these changes and their subsequent environmental effects is important to the understanding of the overall impact of the federal action on the natural, cultural and socioeconomic environment.

Consideration of secondary and cumulative impacts requires the assessment of an area's ability to absorb additional development, the loss of businesses or residences, and the watershed's ability to absorb the loss of additional wetlands. Further, the upcoming NEPA document should include a detailed description of how local land use regulations would affect growth induced in the study area by the feasible alternatives.

Induced Travel: In the upcoming NEPA document, describe the short and long-term effects the project is expected to have on induced travel. The anticipated effect of the project on the number of car trips should be stated, since the presumption is that adding the I-66 segment will result in enhanced access and traffic flow.

Threatened and Endangered Species: The map of the study area shows wildlife preserves and natural areas. Efforts should be made to avoid and/or minimize impacts to these areas, and on wildlife and endangered species migrating to and from these areas. We recognize the Shawnee National Forest as a particular area of environmental concern.

The impact of the project on threatened and endangered species, and their habitats, should be evaluated during the scoping process, and appropriate avoidance and/or mitigation measures should be developed in consultation with the FWS, as appropriate. EPA principally defers to the FWS regarding endangered species assessments, and encourages your continued coordination with the FWS.

Cultural and Historic Resources/Section 4(f) Properties: The maps you provided show the presence of sites with historic and cultural significance, but it is unclear whether any of the potential corridors would impact those sites. Coordination with the State Historic Preservation Officers of the involved States will be needed to assist in addressing potential impacts, and compliance with Section 106 of the National Historic Preservation Act.

Each NEPA document should describe the cultural resources which the undertaking may effect, and demonstrate to the public that appropriate consultation with the State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO) is underway or has occurred.

If consultation is completed, any mitigation for adverse effects agreed to through the Section 106 process should be included in the NEPA documentation, so that the public, as well as the EPA, has a complete picture of the action and all of its potential impacts to the environment,

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both natural and man-made. This enables all reviewers to give better, more informed comments.

The upcoming NEPA document should account for certain public lands, and all historic properties protected under Section 4(f), especially the Shawnee National Forest. Under Section 4(f), if the selected alternative impacts any of these "Section 4(f)" properties, then the upcoming NEPA document must include an analysis which shows that: (1) there is no feasible and prudent alternative to the use of land from the Section 4(f) property, and (2) the selected alternative includes all possible planning to minimize harm from such use.

Air Quality: The NEPA document should contain a discussion of the transportation air quality regulatory requirements, and regional air quality concerns in the project area. A localized carbon monoxide (CO) analysis, in metropolitan areas, may help in the evaluation of alternative alignments.

The document should assess existing air quality conditions in terms of National Ambient Air Quality Standards (NAAQS), Federal Prevention of Significant Deterioration (PSD) increments, and state air quality standards (particularly if they are more stringent than the federal regulations).

Any aspects of the project that could adversely affect air quality, in terms of creating new violations of Federal air quality standards, increasing the frequency and severity of existing violations of the standards, or delaying attainment of the standards, should be identified. All emissions resulting from the project must be in compliance with applicable air quality regulations, particularly the NAAQS for criteria air pollutants [e.g., ozone, carbon monoxide (CO), nitrogen oxides, sulfur dioxide, lead and particulate matter (PM)] in designated non-attainment or maintenance areas.

Wetlands: EPA is concerned about the project's potential to impact wetlands in the study area. There are a number of palustrine forested wetlands and palustrine emergent wetlands in the study area.

The upcoming NEPA document should describe the functions and values of each wetland, so that a reviewer can ascertain and compare the gravity of wetland impacts from each alternative. The upcoming NEPA document should account for direct, indirect, and cumulative wetland impacts from each alternative. The upcoming NEPA document should give a detailed description of strategies for avoiding, minimizing and mitigating wetland impacts, and commit to implementing these strategies.

The NEPA document's wetland mitigation strategy should commit to reproducing the functions and values lost in the impacted wetlands, and establish compensatory sites as close as possible to impacted wetlands (preferably adjacent to the impacted wetlands). We suggest that the feasible alternatives avoid forested wetlands, as these wetlands are difficult to reproduce elsewhere.

Clean Water Act Section 303(d) Impaired Water Bodies: We are concerned with the potential of this project to impact impaired sections of water bodies in the study area. The Mississippi River is an example of a water body in the study area listed as an impaired stream under Section 303(d) of the Clean Water Act. The water quality impairment is due primarily to priority organics, metals, nutrients, habitat alterations, and siltation.

Under Section 303(d), impaired streams are subject to the Total Maximum Daily Load

(TMDL) program, which is used to return the streams to compliance with water quality standards. Under the TMDL program, all point and non-point sources that affect the Mississippi River are subject to maximum pollutant loadings that can be introduced into the river. We recommend that the upcoming NEPA document include information regarding impaired segments of rivers in the study area and any TMDLs that are associated with impaired segments. The upcoming NEPA document should also describe what the impacts of the feasible alternatives would be to stretches of the impaired rivers.

Noise: Interstate construction and operational (highway) noise should be predicted for the no build and each of the build alternatives. State-of-the-art noise modeling should be utilized, with consistent methods used by the DOTs of all the states involved. Given that I-66 will cross state boundaries, consistency in the noise analysis could become an issue. In order to provide consistency within the streamlined NEPA process, EPA recommends the following measures:

Definitions of Substantial Noise Increases - Pursuant to 23 CFR 772, the Federal Highway Administration (FHWA) provides the state DOTs discretion in their interpretation of what constitutes a "substantial increase" in noise levels attributable to their highway projects. When predicted traffic noise levels substantially exceed the existing noise level, it is defined as a traffic noise impact which warrants further attention. Some states consider a 10 dBA or greater increase as substantial, while other states believe that increases are not substantial until 15 dBA or greater. EPA believes that a 10 dBA or greater increase due to the project is substantial (significant), since a 10 dBA increase is perceived as a doubling of sound by the human ear. For those states that adhere to the 15 dBA or greater threshold, EPA requests that noise analysis also be provided for a 10-14 dBA increment category, as well as the 15 dBA or greater increment category.

Consistent Use of Noise Metrics - Similar to the states' discretion in defining substantial incremental increases, FHWA allows the use of either the L_{eq} or the L_{10} metric in the noise analysis. In order to achieve consistency within the noise analysis of this highway, EPA requests that if the use of L_{10} is prescribed by state regulation, a noise analysis using L_{eq} should also be provided to supplement the required L_{10} analysis. However, if all states along the route use L_{10} , then L_{eq} data need not be secondarily provided since consistency would already be achieved.

Consistent Use of Noise Models - Modeling should also be consistent for noise analyses along highway. It is particularly important that the same noise model version be used for both the Draft EIS and Final EIS, and among EISs for I-66 sections to the extent possible. For example, use of STAMINA followed by the use of the Traffic Noise Model could create concern regarding model acceptability.

Noise abatement should be considered when project noise impacts approach FHWA Noise Abatement Criteria, or meet or exceed the existing noise levels by the state thresholds, i.e., incremental increases of 10 dBA or greater (preferred by EPA), or 15 dBA or greater.

In general, avoiding noise impacts via alignment shifts is frequently the most effective form

of "mitigation," (since it avoids or minimizes the need for attenuation), and should therefore be emphasized during the alternatives analysis.

Water Quality: The EIS should identify and discuss the location, amount, type, and quality of waters of the U.S., including wetlands, in the study area, identify who delineated them (i.e., U.S. Army Corps of Engineers (COE), contractor, lead agency, etc.), the delineation method(s) used, and impacts to these resources for each action alternative.

All discussions of waters of the U.S. should be broken out by rivers/streams and wetlands. Include maps, text, and tables that feature areas occupied by wetlands, aquatic systems, and non-wetland riparian habitat.

NEPA/404 Merger: If waters of the United States may be impacted by activities regulated by Section 404 of the Clean Water Act, EPA strongly recommends that the NEPA document contain a thorough discussion of the proposed project's consistency with Federal Guidelines for specification of disposal sites for dredged or fill materials, [the 404(b)(1) Guidelines found at 40 CFR Part 230].

In addition, a draft mitigation plan should be developed during the NEPA process to compensate for predicted wetland and stream losses that remain after efforts to avoid and minimize such impacts.

The project proponents should consider requesting concurrence for the project from reviewing agencies under the NEPA/404 merger process agreement, in the states where the selected alignment is located, and where the agreement is accepted. Specifically, the project proponents would request the reviewing agencies for concurrence on three proposed points: (1) the purpose and need for the project, (2) the alternatives retained for further study, and (3) the preferred alternative. This process is helpful because makes the project proponents and the reviewing agencies aware of each other's views, and it provides an opportunity for constructive dialog. If any reviewing agency raises issues about a proposed concurrence point, then these issues can be resolved before the upcoming NEPA document is submitted for review.

Water Quality: EPA is concerned about degradation of water quality in waterways, from erosion, siltation and other pollutants associated with road construction and operations. The NEPA document should discuss potential impacts to water quality, designated uses, and biological resources from construction and operations of the proposed I-66 segment. The discussion in the document should be of sufficient detail to determine which alternatives are environmentally preferable. Site-specific water quality problems need to be assessed in greater detail, if applicable, including the adoption of site-specific mitigation measures to protect water quality and designated uses.

The NEPA document should discuss what mitigation measures (e.g., nonpoint source controls) will be implemented to protect or improve water quality, designated uses, and biological resources. Mitigation measures related to protection of water quality should be tailored to the condition of the specific water resource, as well as the severity of the potential impacts. Best Management Practices (BMPs) should be used to reduce erosion during construction and operation of the facility.

Environmental Justice: Consistent with Executive Order 12898 (*Federal Actions to Address Minority and Low-Income Populations*), potential EJ impacts should be considered in the NEPA document. The general purpose is to foster non-discrimination in federal programs, and to provide minority and low-income communities greater opportunities for public participation in, and access to, public information regarding human health and environmental issues.

Agricultural Land: The NEPA document should clarify if any agricultural land, specifically prime and unique farmland, would be impacted by the proposed construction. If so, the document should use the U.S. Department of Agriculture classification scheme to describe the present use of agricultural land which would be affected. If this acreage includes prime agricultural land (Class 2), consideration should be given to the Council on Environmental Quality (CEQ) guidelines, (August 30, 1976 and August 11, 1980). Mitigation measures should be developed to avoid loss of such valuable resources.

Biodiversity: Biodiversity is defined as the variety of plants and animals (biota) of a site or region, and is typically measured by the number of different species and number of individuals per species. In general, the more diverse an area (number of habitat types and animal inhabitants) and the better represented these components are (population counts), the more rigorous (resistant, undisturbed, natural, "healthy") the area is considered.

Consistent with CEQ guidance, the NEPA document should discuss biodiversity aspects of the proposal as appropriate. Coordination with the USFWS/NMFS and the state fish and wildlife agency is recommended regarding the design of any project mitigation areas to enhance or restore biodiversity.

One of the biggest threats to the environment is loss of ecosystem functionality due to fragmentation. Roads, agriculture and other development often lead to cutting natural systems into smaller pieces. Large, contiguous tracts of natural land are required not only for species habitat range, such as migratory birds or black bears, but for ecosystem function.

Many ecological processes require large areas of land, often crossing more than one land cover type. Viable landscape linkages are needed to connect these different land types, or the processes are disrupted and their capabilities to function healthily are compromised. For these reasons, conservation must take on the new challenge of not only protecting pristine areas, but ecological connectivity as well.

Public involvement: Public involvement should be initiated early and solicited throughout the NEPA documentation process. It is essential to know the values of a community in order to avoid, minimize and mitigate impacts as well as narrow the field of alternatives. The community also needs to be informed of the tradeoffs and constraints of the process.



Reply to
Attention of:

DEPARTMENT OF THE ARMY
MEMPHIS DISTRICT CORPS OF ENGINEERS
167 NORTH MAIN STREET B-202
MEMPHIS TN 38103-1894

DIVISION OF PLANNING

July 3, 2003

2003 JUL -7 A 11:31

Readiness Branch
Construction Operations Division

Ms. Annette Coffey, P.E.
Director, Division of Planning
Transportation Cabinet
Commonwealth of Kentucky
Mail Code A-2
Frankfort, Kentucky 40622

Dear Ms. Coffey:

Thank you for the opportunity to comment on the proposed alignment of Interstate 66. Members of my staff recently participated in a conference call with representatives from your office, Parsons Brinckerhoff, and the U.S. Coast Guard. At the end of the teleconference, Mr. Bruce Siria requested that the Memphis District send a letter to your organization outlining the Corps' position and concerns regarding any construction within the Birds Point-New Madrid Floodway. We understand that a selected corridor is to be recommended at a July 17 meeting of the Transportation Cabinet.

The U.S. Army Corps of Engineers strongly opposes any proposed alignments that cross the floodway and recommends that the Kentucky Transportation Cabinet select a route for Interstate 66 that is outside the floodway.

The enclosures to this letter summarize our concerns from 1) operational; 2) engineering; 3) real estate; and 4) regulatory standpoints. These documents also outline the stringent criteria that must be met if your agency does select a route through the floodway.

If you or your staff has any questions regarding this matter, please contact me. Once again, I'd like to propose that members of my staff meet with your planning team to fully brief them on our concerns. Copies of this letter with enclosures are being forwarded to the U.S. Coast Guard and the President of the Mississippi River Commission.

Sincerely,

for

Jack V. Scherer
Colonel, Corps of Engineers
District Engineer

Enclosures

Enclosure 1 Operations

Concerns

Figure 1 is a section of the plate provided by Parsons Brinckerhoff entitled "Final Alternative Corridors." The northern corridor (11-North according to the legend) crosses the Inflow Crevasse where 11,099 feet of levee would be artificially crevassed utilizing Dense Blasting Agent (DBA) -105P, a blasting agent with a cratering effect of 1.5 time that of TNT. The southern corridor, 11-South, while outside the limits of the inflow crevasse, still crosses the floodway within the fuse plug area. Any corridor crossing within the upper fuse plug area would have to cross lands that the Corps purchased due to anticipated damages from bluchole and sanding effects.

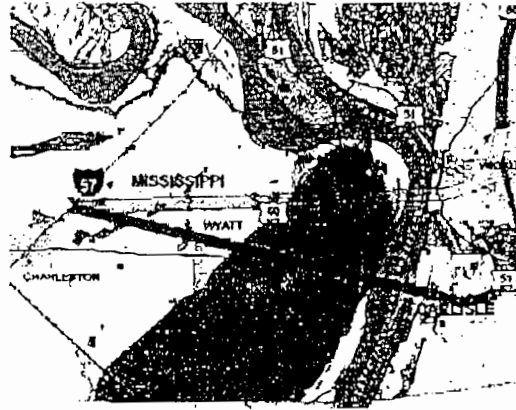


Figure 1 - Optional Corridors for I-66
Crossing the Floodway

The Memphis District strongly opposes both of these proposed alignments and would oppose any alignment crossing within the upper fuse plug area. The Memphis District would prefer that Interstate 66 not cross the floodway. If, however, your agency would like to pursue an alternative south of the upper fuse plug, you must consider the following criteria prior to initiating any detailed planning.

Criteria

Bridge Clearance

Any proposed bridge crossing the Mississippi River adjacent to the floodway cannot impose any restrictions for the operational tows involved in floodway operation. At a minimum, the low steel elevation of the bridge shall be 385.97 NGVD.

Safety Zone

The safety zone for liquefaction potential, airblast, and ground motion has been established to be one-half mile from any of the three detonated crevasse locations.

Access Lanes

In order to access crevasse locations with floating plant carrying the components of the DBA 105-P, the Corps has purchased easements riverward of the levee that cannot be blocked or hindered by any permanent structures, such as bridge piers.

Evacuation

Due to safety concerns for inhabitants and workers, all roadways entering the floodway would be closed during operation of the floodway. Under current authority, the floodway could be operated when the Cairo gage reaches an elevation of 58.0 feet with a forecast in excess of 60.0

feet. Therefore, in the interest of public safety, the Corps would require that an Interstate crossing the floodway be closed when the Cairo gage nears these stages.

Background

The Birds Point - New Madrid Floodway is located in southeast Missouri in Mississippi and New Madrid counties on the right descending bank of the Mississippi River just below Cairo, Illinois. It contains approximately 205 square miles, varies from 4 to 12 miles in width, and is approximately 30 miles long. The purpose of the Floodway is to provide additional conveyance in this reach of the river in order to prevent the Project Design Flood from exceeding its design elevations at and above Cairo on the Mississippi and lower Ohio River and along the Mississippi River adjacent to the floodway.

Construction and operation of the Birds Point - New Madrid Floodway was originally authorized by the Flood Control Act of 15 May 1928, which adopted the report of the Chief of Engineers published in House Document 90, 70th Congress. Section 8 of the Act addressed the



Figure 2 - Physical features of the Birds Point - New Madrid Floodway

responsibilities for construction and operation of the Mississippi River and Tributaries Project, of which the Birds Point - New Madrid Floodway is a component. The salient features of the floodway included construction of the setback levee (see Figure 2) to project design grade, the degrading of the frontline levee to an elevation equivalent to the flowline that corresponded to 55.0 feet on the Cairo, IL gage and the acquisition of the necessary flowage easements. The plan of operation called for the frontline levee to begin natural overtopping at an equivalent stage of 55.0 feet (1 in 17 year frequency) on the Cairo gage.

The flood of 1937 necessitated operation of the floodway; however, it became evident that natural overtopping alone would not allow an adequate flow through the floodway. After several natural

crevasses, dynamite was utilized to crevasse other sections of the frontline levee.

Modification to the floodway was authorized by the Flood Control Act of 27 October 1965, substantially as recommended by the report of the Chief of Engineers published in House Document 308, 88th Congress. This document provided for raising the 57 mile frontline levee to give more protection to the floodway area by,

“...raising the levees forming the east boundary of the Birds Point - New Madrid Floodway and modifying operation thereof to include breaching of the fuse plug levee during floods which reach 58 feet and threaten to exceed 60 feet at Cairo.”

The current operation plan was implemented in October 1986. The Memphis District and the

Mississippi Valley Division developed this plan to eliminate some of the disadvantages of previous operational plans. The intent of the 1986 Operation Plan is to allow natural overtopping of the upper fuse plug section before artificially crevassing the levee. Under a natural overtopping condition, or artificial crevassing with a forecast to exceed 60 feet at Cairo, the floodway is afforded a 1 in 80 year level of protection. However, if the integrity of a feature of the main stem flood control project is threatened, artificial operation of the floodway may be required and is authorized (1965 Flood Control Act) at or above a 58-foot stage on the Cairo gage with a stage in excess of 60 feet predicted.

The two fuse plug sections of the frontline levee (shown in figure 3) are two feet lower than the remainder of the frontline levee to provide for natural overtopping of the levee at high river stages. The upper fuseplug section is 11.3 miles long, and the inflow crevasse within the upper fuseplug is 11,099 feet in length. Due to the bluehole and sanding effects expected from overtopping, the Corps purchased in fee value a one-half mile strip of land along the entire 11.3 miles of the upper fuse plug. This area was quit claimed to the local levee district for maintenance. The

quitclaim deed(s) contained a clause that stipulated that no permanent structures could be built in the area. On the lower end of the floodway, the fuseplug is 4.5 miles long and Inflow/Outflow Crevasse #2 within the lower fuseplug is 5,500 feet in length. Inflow/Outflow Crevasse #1, located in the vicinity of Big Oak Tree State Park, is also 5,500 feet in length.



Figure 3 – Operational Features of the Floodway

Under the plan of operation, three crevasse sections of the frontline levee (shown in figure 3) would be artificially crevassed by detonating a slurry blasting agent known as Dense Blasting Agent (DBA) 105P, which has a cratering effect 1.5 times that of TNT. The slurry would be pumped in a series of 4" polyethylene pipes that have been pre-emplaced in the three sites. Upon order of the President, Mississippi River Commission, the slurry would be detonated in 1,000-foot sections, as needed, according to hydrologic conditions, allowing a minimum discharge of 550,000 cubic feet per second to pass through the floodway.

Enclosure 2 Engineering

Concerns

The U.S. Army Corps of Engineers and the Mississippi River Commission have a continuing obligation to ensure that the Mississippi River and Tributaries (MR&T) Project can efficiently and safely pass floods through the Lower Mississippi River Valley. An integral feature of the MR&T Project is the safe and efficient operation of the Birds Point – New Madrid Floodway (floodway).

Criteria

Because the integrity of the flood protection works in the vicinity of the floodway are dependent on the diversion of flood discharges through the floodway, no increase in grade of the upper fuseplug levee can be permitted; nor can any impediment of the approach flow conditions be allowed.

The operation of the floodway and the level of protection afforded the interior of the floodway is stage dependent; therefore, any structure proposed must have sufficient openings to preclude any change in the stage discharge relationship of the Mississippi River in the vicinity of the floodway.

Any increases in other locations considered must also address the remedial measures required to preserve the current level of flood protection.

Any proposed structures within the interior of the floodway will be required to pass all anticipated flow diversions at the same level as currently indicated by the Mississippi Basin Model tests.

Proposed structures within the floodway would have to be designed to resist potential localized velocities and scour created by the flow diversion and the accumulation of any floating debris.

Operation of the floodway will require suspension of traffic along any proposed route through the floodway with the duration of traffic suspension being dependent upon the recession of the floodwaters within the floodway and safety inspections of the floodway area.

Background

Current physical conditions pertaining to the floodway are reflective of the provisions outlined in the 1965 Flood Control Act (FCA) dated 27 October 1965. This law provided for raising the levees forming the east boundary of the floodway. It also provided for operation of the floodway when floods reach 58 feet and are projected to exceed 60 feet

on the Cairo, IL gage. Such operation includes artificial breaching of the levees which right shall not be limited to the existing fuseplug sections.

The operation of the floodway during major floods will divert those flows necessary to insure the integrity of the flood protection works on the Mississippi and Ohio Rivers upstream and adjacent to the floodway. To ensure that integrity, Mississippi River flood discharge below Cairo, IL, to New Madrid, MO, are required to be limited to 1,810,000 cubic feet per second (cfs) of the total Mississippi River Project Flood of 2,360,000 cfs. This will require a minimum discharge of 550,000 cfs to pass through the floodway.

The current operation plan is designed to accomplish the required diversions by artificially crevassing sections of the frontline levee (FLL) in three locations. These three locations are designated as Inflow Crevasse, an 11,099-foot section in the upper fuse plug, Inflow/Outflow Crevasse No. 1, a 5500-foot section in the FLL across from Hickman, KY and Inflow/Outflow Crevasse No. 2, a 5500-foot section of the lower fuseplug section. Under the current operational plan, at approximately 60 feet on the Cairo, IL gage, the Inflow Crevasse in the UFP Section will be completely prepared for operation. The Director of Public Safety of the State of Missouri will be notified of impending actions and upon order of the President, MRC artificial crevassing of the Inflow Crevasse will begin in 1,000-foot sections as needed according to hydrologic conditions. Preparation of the Inflow/Outflow Crevasses for artificial breaching will follow operation of the Inflow Crevasse. However, if the integrity of a feature of the mainstem flood control project is threatened, operation of the floodway may be required and is authorized at or above a 58- foot stage on the Cairo gage with a stage in excess of 60-feet predicted.

Enclosure 3

Real Estate

Concerns

Operation of the Project is controlled by the President of the Mississippi River Commission. The Chief of Engineers would be consulted prior to any activation. Therefore, any necessary grant of the right to construct a highway across the floodway would be determined by those entities within the Corps. Additionally, Congressional alteration of operational authorities could be required in order to grant any Consent to the proposed Interstate Highway right-of-way. If Congressional Authority changes operation of the floodway for proposed highway, then new easements would have to be acquired over the entire floodway.

Criteria

The Corps of Engineers must consent to the utilization of any easements or real estate interests requested for the interstate. "As a general rule, activities or construction and use of structures or facilities which would injure or defeat the purposes for which the property interest was acquired will not be approved."

At present, the easements held by the United States in the floodway and the conditions and reservations in the fuse plug Quitclaim Deeds, preclude the consent to the highway right-of-way, absent a showing of no impact on floodway operations by engineering analysis of the appropriate engineering branches.

Background

The United States possesses Flowage Easements, Access Lane Easements, and Levee and Crevassing Easements for the operation of the Birds Point-New Madrid Floodway. Reservation of certain rights in the United States, which are conditions of utilization, apply to an area approximately one-half mile in width and running the entire length of the Upper Fuse Plug area.

In that area, the United States reserved "...the perpetual right, power, privilege, and easement to overflow or inundate the lands ... together with any improvements situated thereon, at any time, or for any length of time, with waters of the Mississippi River and its tributaries as may be necessary or required in connection with the operation and maintenance of the Birds Point - New Madrid Floodway...."

Restrictions in that area prohibit building for human habitation, other than those presently existing, nor shall any building be constructed or maintained on the land ... that no structure of any other type, other than those presently existing, shall be constructed or maintained on the land ... without the prior written approval of the representative of the United States in charge of the Birds Point - New Madrid Floodway Project...."

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Enclosure 3

Real Estate

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Restrictions in that area prohibit building for human habitation, other than those presently existing, nor shall any building be constructed or maintained on the land ... that no structure of any other type, other than those presently existing, shall be constructed or maintained on the land ... without the prior written approval of the representative of the United States in charge of the Birds Point - New Madrid Floodway Project...."

Enclosure 4 Regulatory

Concerns

The alternative alignment that crosses the Ohio/Mississippi floodplain near Wickliffe, KY and Mound City, IL would present some concerns relative to the wetlands in that corridor. However, such design features as an elevated roadway and some wetland mitigation could overcome these concerns. The opportunities for wetland mitigation within the Wildlife Management Areas in and near the corridor should be considered.

The proposed alternatives that cross the Birds Point – New Madrid Floodway would likely involve wetland impacts that would include some mitigation requirements in addition to the stringent requirements dealing with operation of the floodway.

Criteria

Construction of a route through the floodway will have 404 permitting requirements.

Background

In weighing alternative corridors, the alternative crossing from Wickliffe, KY and Mound City, IL may appear less desirable due to wetland concerns. However, any alternative crossing the Birds Point – New Madrid Floodway would not only have 404 permitting requirements; it would require that all operational, engineering and real estate criteria be met. After a review of the criteria, the crossing from Wickliffe to Mound City would appear more desirable.



Reply to
Attention of:

DEPARTMENT OF THE ARMY
MEMPHIS DISTRICT CORPS OF ENGINEERS
167 NORTH MAIN STREET B-202
MEMPHIS TN 38103-1894

DISCUSSION PAPER

SUBJECT: Proposed Interstate 66 Road Crossing of Mississippi River

ISSUE: Effects of Road Crossing on Mississippi River Flood Regimes

We, at the Memphis District Corps of Engineers, are proponents for improvement in the infrastructure and in helping the nation move forward. The building of the Interstate 66 crossing over the Mississippi River would be an example of that improvement and we support that effort. But with that, we want to be insured that design efforts and considerations are given to our concerns in dealing with the flooding regimes of the Mississippi River and Tributaries.

Our major concerns are potential impacts to floodway operation and headloss or changes in the water surface elevations as a result of any proposed bridge or embankment construction. The operation of the floodway is a very complex and controversial issue. Having a major roadway crossing the floodway just magnifies the complexity and presents another potential obstacle to operation if needed. Note that failure to operate the floodway during a Project Design Flood or one nearing this level of an event results in the overtopping of levees and floodwalls in this reach of the Mississippi River and Tributaries project. The impacts extend up the Ohio River and outside the boundaries of Mississippi Valley Division.

Also, the flowage easements within the Birds Point-New Madrid Floodway in southeast Missouri have restrictive clauses that preclude improvements that would affect the operation of the floodway, which may in turn require substantial conveyance openings on any proposed features within the floodway area. Any proposed construction would need detailed engineering studies that indicated that the operation of the floodway would not be impacted. The studies would have to show that sufficient openings are provided such that there are no appreciable changes in the water surface elevations in and above this reach of the Mississippi and Ohio Rivers. Previous efforts related to the port development in the upper fuse plug section required physical modeling of this reach of the river along with proposed developments. The Corps considers physical modeling the minimum level of detail in this kind of engineering analyses. This is a very controversial issue in a reach of the Mississippi River floodplain that requires, by virtue of the lives that could be impacted, this level of study.

Regardless of the designs efforts taken and what the results may show, Mississippi Valley Division still retains final review authority on addressing issues on the Mississippi River. Therefore, detailed review will be a major effort by the Corps of Engineers and will result in intensive correspondence between design agencies and the Corps.

If you have any questions concerning this issue, please contact Dewey Jones at 901-544-0676 or Tracy James at 901-544-0673.