

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2 May 2008

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Mobile District CESAM-RD-I, L&D, L.L.C., SAM-2008-0492-LET

C. PROJECT LOCATION AND BACKGROUND INFORMATION: West Lake Road at Highway 98 East

State: Mississippi County/parish/borough: Lamar City: Hattiesburg
Center coordinates of site (lat/long in degree decimal format): Lat. 31.314992° N, Long. -89.438174° W.
Universal Transverse Mercator: 16R 0267969 3466898

Name of nearest waterbody: Tributary to Lake Serene (a.k.a. Hennington Lake)

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Black Creek

Name of watershed or Hydrologic Unit Code (HUC): 03170007

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: 7 April 2008

Field Determination. Date(s): 8 April 2008 and 18 April 2008

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: 0.3 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain:

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 811,268.86 acres

Drainage area: 131 acres

Average annual rainfall: 62 inches

Average annual snowfall: 0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 5-10 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: Project waters do not cross or serve as State boundaries.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW⁵: Wetland flows to a segment of tributary upstream of the pool of Lake Serene(a.k.a Hennington Lake) which was historically constructed on a tributary to Perkins Creek, which flows into Perkins Creek, which flows into Black Creek .

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

Tributary is:

Natural

Artificial (man-made). Explain:

Manipulated (man-altered). Explain: The receiving tributary has been manipulated by

downstream impoundment which created Lake Serene/Hennington Lake, and by construction of roadside ditch systems along U.S. Highway 98 that have re-aligned segments of the historic flow route and have concentrated water flow into defined conveyance channels.

Tributary properties with respect to top of bank (estimate):

Average width: 5 feet

Average depth: 1 feet

Average side slopes: 2:1.

Primary tributary substrate composition (check all that apply):

Silts

Sands

Concrete

Cobbles

Gravel

Muck

Bedrock

Vegetation. Type/% cover:

Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributary condition appears to be relatively stable with no observed areas of excessive bank erosion, sloughing, or undercutting.

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: Meandering

Tributary gradient (approximate average slope): Unknown %

(c) Flow:

Tributary provides for: Seasonal flow

Estimate average number of flow events in review area/year: 20 (or greater)

Describe flow regime: The tributary is an intermittently or seasonally flowing stream which was flowing on both days of field review.

Other information on duration and volume: No other tributary specific information, such as USGS gage data, on flow and volume is available.

Surface flow is: Confined. Characteristics: The unnamed tributary to Lake Serene exhibits a defined channel with bed and bank characteristics.

Subsurface flow: Unknown. Explain findings: Subsurface flow was not evaluated.

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks

OHWM⁶ (check all indicators that apply):

clear, natural line impressed on the bank

changes in the character of soil

shelving

vegetation matted down, bent, or absent

leaf litter disturbed or washed away

sediment deposition

water staining

other (list):

Discontinuous OHWM.⁷ Explain:

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events

abrupt change in plant community

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:

oil or scum line along shore objects

fine shell or debris deposits (foreshore)

Mean High Water Mark indicated by:

survey to available datum;

physical markings;

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷ Ibid.

physical markings/characteristics

vegetation lines/changes in vegetation types.

tidal gauges

other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: The water in the roadside ditch portion of the tributary south of U.S. hwy 98 had no oily film but had a cloudy appearance as if from suspended sediment load in the water column on both days of field review. The natural segment of the tributary downstream of the ditched portion also had a slightly cloudy appearance however the water was clear enough that leaves, sticks, and the substrate of the channel bottom could be seen.

Identify specific pollutants, if known: No identified pollutants or 303(d) listings for the Unnamed Tributary or Lake Serene are known or have been located.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): The riparian corridor consists of small segments of naturally vegetated mixed pine and hardwood forested wetland, herbaceous and shrub vegetated areas along ditched segments within maintained road right-of-way and utility line corridors, areas of mixed pine and hardwood uplands interspersed with residences along the lake, and unvegetated commercially developed lands and residential properties vegetated predominantly by planted yard grasses. The average width of the naturally vegetated corridor segments immediately adjacent to the project review area have an average total buffer width of approximately 300 linear feet.

Wetland fringe. Characteristics:

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: The tributary helps convey organic carbon and nutrients from decaying riparian plant material and woody debris downstream to the resident amphibians and aquatic invertebrates, and aquatic and terrestrial vertebrates spawning, foraging, seeking shelter from predators, and/or residing permanently in Lake Serene. Small fish, most likely *Gambusia* sp., were observed swimming in the ditch portion of the seasonal RPW on both days the Corps project manager performed site reviews.

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.3 acres

Wetland type. Explain: Hardwood bottom forest.

Wetland quality. Explain: Wetlands within review area are medium quality wetlands having predominantly desirable vegetative species composition and canopy cover despite some *Ligustrum sinense* growth and surrounding commercial and residential development. The wetlands also appear to receive adequate hydrologic input to support wetland soils, etc.

Project wetlands cross or serve as state boundaries. Explain: Project wetlands do not cross or serve as State boundaries.

(b) General Flow Relationship with Non-TNW:

Flow is: Intermittent flow. Explain: During high water/flood events water running off of surrounding lands flows into the tributary channel/ditch and can flow out into the wetlands along the tributary where the water can be held and gradually absorbed or flow back into the channel and down to Lake Serene.

Surface flow is: Overland sheetflow

Characteristics: Rainfall and high water flows (during rainfall events run-off water flows over the landscape toward and through the wetlands then back into the tributary and to Lake Serene.

Subsurface flow: Unknown. Explain findings: Subsurface flow was not evaluated.

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are 5-10 river miles from TNW.

Project waters are 2-5 aerial (straight) miles from TNW.

Flow is from: Wetland to navigable waters.

Estimate approximate location of wetland as within the 100-500-year floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: There was no standing water in the review area wetlands at the time of either field review. Identify specific pollutants, if known: No known identified pollutants.

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): The riparian buffer wetlands consist of predominantly shrub and hardwood forested wetland lands with some segments encompassed by maintained right-of-way being herbaceous and shrub wetlands. The wetland buffer contains vegetative cover that includes *Magnolia virginiana*, *Nyssa biflora*, *Liriodendron tulipifera*, *Acer rubrum*, *Myrica cerifera*, *Woodwardia aerolata*, *Osmunda cinnamomea* and *Chasmanthium laxum*. The segment within maintained right

of way is dominated by various Juncus sp. and Carex sp., some Baccharis halimifolia and standing dead shrubs that could not be identified. The width of naturally vegetated riparian buffer along the tributary is approximately 300 feet and less in total width.

Vegetation type/percent cover. Explain:

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: The wetlands provide resting, nesting, refuge from predators, and some foraging habitat for small amphibians, reptiles, birds, and mammals that may reside permanently in or periodically utilize the area .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: 1

Approximately (57) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Y	57		

Summarize overall biological, chemical and physical functions being performed: The estimated 57 acres of similarly situated wetlands being considered in the cumulative analysis is within the riparian corridor along the entire reach (from headwater of the unnamed tributary to Perkins Creek through Lake Serene to convergence with Perkins Creek) of the Unnamed Tributary to Perkins Creek that flows north of the review area. This wetland system provides a water source/water recharge area to the unnamed tributary and Lake Serene, it provides capacity to receive and retain floodwater, and provides removal of sediment that may be picked up in overland sheet flow across lands disturbed by development prior to entering Lake Serene. Detritus and decomposition of organic matter from the abutting wetlands also provide nutrients and organic carbon for use by wildlife and fish in downstream food chains. These areas also provide natural lands adjacent to a water source where wildlife may rest, forage, nest, or seek refuge from predators.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:
 TNWs: linear feet width (ft), Or, acres.
 Wetlands adjacent to TNWs: acres.
2. RPWs that flow directly or indirectly into TNWs.

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
- Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
 - Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: The hardwood forested wetlands abutting the seasonal RPW tributary to Lake Serene are not physically separated from the tributary channel by upland berms, roadways or other physical barriers.

Provide acreage estimates for jurisdictional wetlands in the review area: **0.3** acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain:
- Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters:
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 7.5 Minute Hattiesburg SW, MS.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey 2.0, Lamar County, Mississippi. Available online at <http://websoilsurvey.nrcs.usda.gov/> accessed [03/18/2008].
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: Lamar County, Mississippi and Incorporated Areas Map No. 28073C0055 C effective April 2, 1990.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
 Photographs: Aerial (Name & Date): Aerial photography on Google Earth, accessed 17 April 2008.
or Other (Name & Date): Digital color photographs taken by Corps project manager during 8 April and 18 April

2008 field reviews.

- Previous determination(s). File no. and date of response letter:
 Applicable/supporting case law:
 Applicable/supporting scientific literature:
 Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: