May 15, 2018

Ms. M. Elaine Edwards
Chief, Regulatory Division
Little Rock District Corps of Engineers
P.O. Box 867
Little Rock, AR 72203-0867

RE: Job Number 070379
Hurricane Creek Str. & Apprs.
Route 172, Section 1
Calhoun County

Dear Ms. Edwards:

Enclosed are the Categorical Exclusion, supporting illustrations and proposed construction plans for the referenced project. The proposed ARDOT project will replace the existing bridge over Hurricane Creek on Highway 172 in Calhoun County. The existing 47’ x 26’ timber frame bridge supported by multi-beam timber substructure will be replaced with a 12’ x 7’ x 56’ quintuple reinforced concrete box culvert on existing location. The existing roadway consists of two 10’ travel lanes with 2-foot wide gravel shoulders, and the proposed improvements will include two 10’ travel lanes with 4-foot shoulders on either side. A detour road, approximately 70’ downstream of the existing bridge, will be used during construction for maintenance of traffic.

Construction of the box culvert over Hurricane Creek will permanently clear 0.63 acre of bottomland hardwood forested wetlands. Permanent stream impacts resulting from the bridge replacement are estimated at 0.04 acre. Temporary stream impacts resulting from the detour are estimated at 0.02 acre with 64 feet of Hurricane Creek routed through temporary pipe culverts. Temporary bottomland hardwood forested wetland impacts due to the temporary detour during construction are estimated at 0.93 acre. Construction of the proposed box culvert and removal of the existing structure, over Hurricane Creek, will not require any work roads.

Total wetland impacts are estimated at 1.56 acres, and total impacts to other waters of the United States are estimated at less than 0.1 acre. The ARDOT proposes the use of 20.1 wetland credits to mitigate the 1.56 acres of wetland
impacts. The wetland credits will be mitigated at an approved mitigation bank servicing the area.

The proposed project will not impact State or Federal lands, National or State wild or scenic rivers, Extraordinary Resource water bodies, or Ecologically Sensitive Waters.

Please review this project for concurrence that construction can proceed under the terms of a Nationwide 23 for Approved Categorical Exclusions. If additional information is required, please contact Kayti Ewing or Josh Seagraves of my staff at (501) 569-2522.

Sincerely,

[Signature]

John Fleming
Division Head
Environmental Division

Enclosures
  Categorical Exclusion
  Supporting Illustrations
  Proposed Construction Plans
March 16, 2018

TO: Master Files

FROM: John Fleming, Division Head, Environmental Division

SUBJECT: Job Number 070379
FAP Number NHPP-0007(29)
Hurricane Creek Str. & Apprs. (S)
Route 172, Section 1
Bridge Number M2208
Calhoun County
Tier 2 Categorical Exclusion

The Environmental Division has reviewed the referenced project and it falls within the definition of a Tier 2 Categorical Exclusion under 23 Code of Federal Regulations, Section 771.117, and the ArDOT/FHWA Memorandum of Agreement on the processing of Categorical Exclusions. A public hearing will not be offered for this project.

The purpose of this project is to replace a structurally deficient bridge on Highway 172 in Calhoun County. Total length of the project is 0.134 mile. A project location map is attached.

The existing Hurricane Creek Bridge (Bridge Number M2208) consists of a 3-span, 47’ x 26’ timber frame structure supported by a multi-beam timber substructure, timber end caps, and asphalt surfacing. The bridge has a sufficiency rating of 31.7. The existing roadway approaches consist of two 10-foot wide paved travel lanes with 2-foot wide gravel shoulders. Existing right of way width is 80 feet.

Proposed improvements include replacing the bridge with a quintuplet 12' x 7' x 56' box culvert on existing location. A detour road used during
construction will be located 70’ downstream. The new approaches will consist of two 10-foot wide paved travel lanes with 4-foot wide shoulders. The average new right of way width will be 170 feet. Approximately 1.1 acres of additional right of way will be required for this project with 0.36 acre of temporary construction easements.

Design data for this project is as follows:

<table>
<thead>
<tr>
<th>Design Year</th>
<th>Average Daily Traffic</th>
<th>Percent Trucks</th>
<th>Design Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>250</td>
<td>11</td>
<td>55 mph</td>
</tr>
<tr>
<td>2038</td>
<td>300</td>
<td>11</td>
<td>55 mph</td>
</tr>
</tbody>
</table>

There are no relocations, environmental justice issues, floodplains, prime farmland, cultural resources, or wellhead protection areas/public water supplies associated with this project. Field inspections found no evidence of existing underground storage tanks or hazardous waste deposits.

The official species list obtained through the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation website identifies the Pink Mucket (*Lampsilis abrupta*) and Rabbitsfoot (*Theiderma cylindrica*) as potentially occurring within the proposed project area. A 'no effect' determination was made for the federally listed mussel species, as there is no suitable habitat in the project area. The USFWS species list is attached.

Temporary bottomland hardwood forested wetland impacts due to the temporary detour during construction are estimated at 0.93 acre. Temporary stream impacts resulting from the detour are estimated at 0.02 acre with 64 feet of Hurricane Creek routed through temporary pipe culverts. Approximately 0.63 acre of bottomland hardwood forested wetland will be permanently cleared for construction and maintenance of the proposed box culvert. Permanent stream impacts resulting from the bridge replacement are estimated at 0.04 acre. The proposed quintuple box culvert will permanently impact approximately 58 feet of Hurricane Creek.

Total wetland impacts are estimated at 1.56 acres. Some of the impacted wetlands are within existing right of way. Total impacts to other waters of the U.S. are estimated at less than 0.1 acre. The ARDOT proposes the use of 20.1 wetland credits to mitigate the 1.56 acres of wetland impacts. The wetland
credits will be mitigated at an approved mitigation bank servicing the area. Construction of the proposed project should be allowed under the terms of a Nationwide Permit 23 for Approved Categorical Exclusions.

Noise predictions have been made for this project utilizing the Federal Highway Administration’s TNM 2.5 (Traffic Noise Model) procedures. These procedures indicate that noise levels are below the FHWA noise criteria beyond the project’s proposed right of way limits. Any increases in roadway noise levels will not be the result of the proposed project, but instead a result of traffic volume increases during the planning period (Year 2038). Therefore, any noise level increases will occur independently of this proposed project, and no project related noise impacts are anticipated. In compliance with Federal guidelines, local authorities will not require notification.

Attachments:
- Project Location Map
- SHPO Clearance
- Environmental Study Checklist
- USFWS Species List
- Design Sheets

Approved:

Kevin Thornton
Assistant Chief Engineer-Planning

JF:TT:fc
c: Program Management
   Right of Way
   Roadway Design
   Bridge Division
   District 7
   FHWA
   Master File
February 20, 2018

Ms. Stacy Hurst  
Arkansas Historic Preservation Program  
1100 North Street  
Little Rock, Arkansas 72201

Re: Job Number 070379  
Hurricane Str. & Apprs. (S)  
Calhoun County

Dear Ms. Hurst:

Please find enclosed a Project Identification Form (PIF) for the above referenced project. This project proposes to replace Bridge Number M2208 on Highway 172 in Calhoun County. If you have any questions or require additional information about the project, please contact Milton Hughes of my staff at 501-569-2080.

Sincerely,

Brenda Price
John Fleming  
Division Head  
Environmental Division

Enclosures  
PIF  
JF:DW:MH:fc

[Handwritten notes]  
2/22/2018  
Arkansas State Historic Preservation Officer
In Reply Refer To: Consultation Code: 04ER1000-2018-SLI-0590
Event Code: 04ER1000-2018-E-00850
Project Name: 070379 Richland Creek Str. & Apprs. (S)

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies endangered, threatened, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). This letter only provides an official species list and technical assistance; if you determine that listed species and/or designated critical habitat may be affected in any way by the proposed project, even if the effect is wholly beneficial, consultation with the Service will be necessary.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found on our website.

Please visit our website at http://www.fws.gov/arkansas-es/IPaC/home.html for species-specific guidance to avoid and minimize adverse effects to federally endangered, threatened, proposed, and candidate species. Our web site also contains additional information on species life history and habitat requirements that may be useful in project planning.
If your project involves in-stream construction activities, oil and natural gas infrastructure, road construction, transmission lines, or communication towers, please review our project specific guidance at [http://www.fws.gov/arkansas-es/IPaC/ProjSpec.html](http://www.fws.gov/arkansas-es/IPaC/ProjSpec.html).

The karst region of Arkansas is a unique region that covers the northern third of Arkansas and we have specific guidance to conserve sensitive cave-obligate and bat species. Please visit [http://www.fws.gov/arkansas-es/IPaC/Karst.html](http://www.fws.gov/arkansas-es/IPaC/Karst.html) to determine if your project occurs in the karst region and to view karst specific-guidance. Proper implementation and maintenance of best management practices specified in these guidance documents is necessary to avoid adverse effects to federally protected species and often avoids the more lengthy formal consultation process.

If your species list includes any mussels, Northern Long-eared Bat, Indiana Bat, Yellowcheek Darter, Red-cockaded Woodpecker, or American Burrowing Beetle, your project may require a presence/absence and/or habitat survey prior to commencing project activities. Please check the appropriate species-specific guidance on our website to determine if your project requires a survey. We strongly recommend that you contact the appropriate staff species lead biologist (see office directory or species page) prior to conducting presence/absence surveys to ensure the appropriate level of effort and methodology.

Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make “no effect” determinations. If you determine that your proposed action will have “no effect” on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take “after-the-fact.” For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at [www.fws.gov/endangered/esa-library/index.html#consultations](http://www.fws.gov/endangered/esa-library/index.html#consultations).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be
completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
(501) 513-4470
Project Summary

Consultation Code: 04ER1000-2018-SLI-0590
Event Code: 04ER1000-2018-E-00850
Project Name: 070379 Richland Creek Str. & Apprs. (S)
Project Type: BRIDGE CONSTRUCTION / MAINTENANCE
Project Description: A bridge replacement in Calhoun County.

Project Location:
Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.45080155938223N92.42209493832863W

Counties: Calhoun, AR
Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Clams

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pink Mucket (pearlymussel) <strong>Lampsilis abrupta</strong></td>
<td>Endangered</td>
</tr>
<tr>
<td></td>
<td>No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7829">https://ecos.fws.gov/ecp/species/7829</a></td>
</tr>
<tr>
<td>Rabbitsfoot <strong>Quadrula cylindrica cylindrica</strong></td>
<td>Threatened</td>
</tr>
<tr>
<td></td>
<td>There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5165">https://ecos.fws.gov/ecp/species/5165</a></td>
</tr>
</tbody>
</table>

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE’S JURISDICTION.
### ARDOT ENVIRONMENTAL IMPACTS ASSESSMENT FORM

**ARDOT Job Number** 070379  **FAP Number** NHPP-0007(29)

**Job Title** Hurricane Creek Str. & Apprs. (S)

<table>
<thead>
<tr>
<th>Environmental Impacts</th>
<th>None</th>
<th>Minor</th>
<th>Significant</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Construction Impacts</td>
<td>X</td>
<td></td>
<td></td>
<td>Temporary</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>X</td>
<td></td>
<td></td>
<td>SHPO approval attached</td>
</tr>
<tr>
<td>Economic</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Endangered Species</td>
<td>X</td>
<td></td>
<td></td>
<td>&quot;No effect&quot; determination</td>
</tr>
<tr>
<td>Energy Resources</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Environmental Justice/Title VI</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish and Wildlife</td>
<td>X</td>
<td></td>
<td></td>
<td>Minor during construction</td>
</tr>
<tr>
<td>Floodplains</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Forest Service Property</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous Materials/Landfills</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Use Impacts</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Migratory Birds</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Navigation/Coast Guard</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise Levels</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime Farmland</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protected Waters</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Recreation Lands</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Water Supply/WHPA</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relocatees</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section 4(f)/6(f)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underground Storage Tanks</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual Impacts</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stream Impacts</td>
<td></td>
<td></td>
<td>X</td>
<td>Section 404 NW23 Permit</td>
</tr>
<tr>
<td>Water Quality</td>
<td>X</td>
<td></td>
<td></td>
<td>Temporary during construction</td>
</tr>
<tr>
<td>Wetlands</td>
<td>X</td>
<td></td>
<td></td>
<td>1.56 acres impacted</td>
</tr>
<tr>
<td>Wildlife Refuges</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Section 401 Water Quality Certification Required?**  No

**Short-term Activity Authorization Required?**  Yes

**Section 404 Permit Required?**  Yes  Type NW23

**Remarks:**

**Signature of Evaluator** [Signature]  **Date** March 15, 2018

5/17/2011
ROADWAY DESIGN REQUEST

Job Number 070379  FAP No. ___________________________  County Calhoun

Job Name Hurricane Creek Str. & Apprs. (S)

Design Engineer Primary Design Environmental Staff

Brief Project Description Bridge replacement

A. Existing Conditions:

Roadway Width: 20'-0"  Shoulder Type/Width: 2' gravel

Number of Lanes and Width: 2 @ 10'  Existing Right-of-Way: 80'

Sidewalks? N/A  Location: _______ Width: _______

Bike Lanes? N/A  Location: _______ Width: _______

B. Proposed Conditions:

Roadway Width: 20'-0"  Shoulder Type/Width: 4’ – 2’ paved

Number of Lanes and Width: 2 @ 10’  Proposed Right-of-Way: 170'

Sidewalks? N/A  Location: _______ Width: _______

Bike Lanes? N/A  Location: _______ Width: _______

C. Construction Information:

If detour: Where: 70’ rt. downstream  Length: 900’

D. Design Traffic Data:

2018 ADT: 250  2038 ADT: 300  % Trucks: 11

Design Speed: 55 m.p.h.

E. Approximate total length of project: 0.134 mile(s)

F. Justification for proposed improvements: Replace structurally deficient bridge

G. Total Relocatees: 0  Residences: 0  Businesses: 0

H. Have you coordinated with any outside agencies (e.g., FHWA, City, County, etc.)? N/A

<table>
<thead>
<tr>
<th>Agency/Official</th>
<th>Person Contacted</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: 070379 Hurricane Creek Str. & Apprs.  
City/County: Calhoun County  
Sampling Date: 8/9/2017  
Applicant/Owner: ArDOT  
State: AR  
Sampling Point: Plot 1  
Investigator(s): Kayla Ewing  
Section, Township, Range: 34.14S, 13W  
Landform (hillslope, terrace, etc.): depression  
Local relief (concave, convex, none): concave  
Slope (%): 0-1  
Subregion (LRR or MLRA): LRR P  
Lat: 33.450710°  
Long: -92.42262°  
Datum: WGS  
Soil Map Unit Name: Guyton soils  
NWI classification: Forested Wetland  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No  
(If no, explain in Remarks.)  
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No  
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)  

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ✔ No</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes ✔ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ✔ No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ✔ No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

**HYDROLOGY**

<table>
<thead>
<tr>
<th>Wetland Hydrology Indicators:</th>
<th>Secondary Indicators (minimum of two required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Indicators (minimum of one is required; check all that apply)</td>
<td>Surface Soil Cracks (B6)</td>
</tr>
<tr>
<td>Surface Water (A1)</td>
<td>Aquatic Fauna (B13)</td>
</tr>
<tr>
<td>High Water Table (A2)</td>
<td>Marl Deposits (B15) (LRR U)</td>
</tr>
<tr>
<td>Saturation (A3)</td>
<td>Hydrogen Sulfide Odor (C1)</td>
</tr>
<tr>
<td>Water Marks (B1)</td>
<td>Oxidized Rhizospheres along Living Roots (C3)</td>
</tr>
<tr>
<td>Sediment Deposits (B2)</td>
<td>Presence of Reduced Iron (C4)</td>
</tr>
<tr>
<td>Drift Deposits (B3)</td>
<td>Recent Iron Reduction in Tilled Soils (C8)</td>
</tr>
<tr>
<td>Algal Mat or Crust (B4)</td>
<td>Thin Muck Surface (C7)</td>
</tr>
<tr>
<td>Iron Deposits (B5)</td>
<td>Other (Explain in Remarks)</td>
</tr>
<tr>
<td>Inundation Visible on Aerial Imagery (B7)</td>
<td>FAC-Neutral Test (D5)</td>
</tr>
<tr>
<td>Water-Stained Leaves (B9)</td>
<td>Sphagnum moss (D8) (LRR T, U)</td>
</tr>
</tbody>
</table>

**Field Observations:**

<table>
<thead>
<tr>
<th>Surface Water Present?</th>
<th>Yes ✔ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Table Present?</td>
<td>Yes ✔ No</td>
</tr>
<tr>
<td>Saturation Present?</td>
<td>Yes ✔ No</td>
</tr>
<tr>
<td>(includes capillary fringe)</td>
<td></td>
</tr>
</tbody>
</table>

Wetland Hydrology Present? Yes ✔ No  

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  

**Remarks:**
### VEGETATION (Four Strata) – Use scientific names of plants

**Sampling Point:** __Plot 1__

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: ____________)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Quercus phellos</td>
<td>35</td>
<td>Yes</td>
<td>OBL</td>
</tr>
<tr>
<td>2. Quercus nigra</td>
<td>25</td>
<td>Yes</td>
<td>FACW</td>
</tr>
<tr>
<td>3. Magnolia virginiana</td>
<td>20</td>
<td>Yes</td>
<td>FACW</td>
</tr>
<tr>
<td>4. Liquidambar styraciflua</td>
<td>15</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>5. Acer rubrum</td>
<td>5</td>
<td>No</td>
<td>FAC</td>
</tr>
</tbody>
</table>

**Dominance Test worksheet:**

<table>
<thead>
<tr>
<th>Number of Dominant Species That Are OBL, FACW, or FAC:</th>
<th>9</th>
<th>(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Dominant Species Across All Strata:</td>
<td>9</td>
<td>(B)</td>
</tr>
<tr>
<td>Percent of Dominant Species That Are OBL, FACW, or FAC:</td>
<td>100%</td>
<td>(A/B)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prevalence Index worksheet:</th>
<th>Total % Cover of</th>
<th>Multiply by</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBL species</td>
<td>0</td>
<td>x 1 = 0</td>
</tr>
<tr>
<td>FACW species</td>
<td>0</td>
<td>x 2 = 0</td>
</tr>
<tr>
<td>FAC species</td>
<td>0</td>
<td>x 3 = 0</td>
</tr>
<tr>
<td>FACU species</td>
<td>0</td>
<td>x 4 = 0</td>
</tr>
<tr>
<td>UPL species</td>
<td>0</td>
<td>x 5 = 0</td>
</tr>
<tr>
<td>Column Totals</td>
<td>0</td>
<td>(A) = 0</td>
</tr>
</tbody>
</table>

**Hydrophytic Vegetation Indicators:**

1. Rapid Test for Hydrophytic Vegetation
2. Dominance Test is >50%
3. Prevalence Index is ≤3.01
4. Problematic Hydrophytic Vegetation

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

** Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

### Sapling/Shrub Stratum (Plot size: ____________)

| 1. Ilex opaca                  | 25   | Yes | FAC |
| 2. Liquidambar styraciflua     | 10   | Yes | FAC |
| 3. Quercus phellos             | 10   | Yes | FACW|
| 4. Callicarpa americana        | 5    | No  | FACU|

**Herb Stratum (Plot size: ____________)**

| 1. Carex jorii                 | 15   | Yes | OBL |
| 2.                            |      |     |     |
| 3.                            |      |     |     |
| 4.                            |      |     |     |
| 5.                            |      |     |     |
| 6.                            |      |     |     |
| 7.                            |      |     |     |
| 8.                            |      |     |     |
| 9.                            |      |     |     |
| 10.                           |      |     |     |
| 11.                           |      |     |     |
| 12.                           |      |     |     |

**Woody Vine Stratum (Plot size: ____________)**

| 1. Brunichia ovata            | 20   | Yes | FACW|
| 2. Smilax glauca              | 15   | Yes | FAC |
| 3.                            |      |     |     |
| 4.                            |      |     |     |
| 5.                            |      |     |     |

**Remarks:** (If observed, list morphological adaptations below)
**SOIL**

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color (moist)</th>
<th>%</th>
<th>Redox Features Color (moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6</td>
<td>10YR 5/2</td>
<td>80-88</td>
<td>10YR 4/4</td>
<td>2-20</td>
<td>C</td>
<td>PL</td>
<td>silt loam</td>
<td></td>
</tr>
<tr>
<td>6-12</td>
<td>10YR 6/2</td>
<td>80-88</td>
<td>10YR 4/4</td>
<td>2-20</td>
<td>C</td>
<td>PL</td>
<td>silt loam</td>
<td></td>
</tr>
</tbody>
</table>

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.*  
*Location: PL=Pore Lining, M=Matrix.*

**Hydric Soil indicators:** (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Mucky Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polysol Value Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Ochric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbritic Surface (F13) (LRR P, T, U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils³:**

- 1 cm Muck (A9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A,B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

<table>
<thead>
<tr>
<th>Type</th>
<th>Depth (inches)</th>
<th>Hydric Soil Present?</th>
<th>Yes ✓</th>
<th>No</th>
</tr>
</thead>
</table>

**Remarks:**
**HYDROLOGY**

<table>
<thead>
<tr>
<th>Wetland Hydrology Indicators:</th>
<th>Secondary Indicators (minimum of two required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Indicators (minimum of one is required, check all that apply)</td>
<td></td>
</tr>
<tr>
<td>Surface Water (A1)</td>
<td>Aquatic Fauna (B13)</td>
</tr>
<tr>
<td>High Water Table (A2)</td>
<td>Marl Deposits (B15) (LRR U)</td>
</tr>
<tr>
<td>Saturation (A3)</td>
<td>Hydrogen Sulfide Odor (C1)</td>
</tr>
<tr>
<td>Water Marks (B1)</td>
<td>Oxidized Rhizospheres along Living Roots (C3)</td>
</tr>
<tr>
<td>Sediment Deposits (B2)</td>
<td>Presence of Reduced iron (C4)</td>
</tr>
<tr>
<td>Drift Deposits (B3)</td>
<td>Recent Iron Reduction in Tilled Soils (C6)</td>
</tr>
<tr>
<td>Algal Mat or Crust (B4)</td>
<td>Thin Muck Surface (C7)</td>
</tr>
<tr>
<td>Iron Deposits (B5)</td>
<td>Other (Explain in Remarks)</td>
</tr>
<tr>
<td>Inundation Visible on Aerial Imagery (B7)</td>
<td></td>
</tr>
<tr>
<td>Water-Stained Leaves (B9)</td>
<td></td>
</tr>
</tbody>
</table>

**Field Observations:**

- Surface Water Present? Yes ☑ No ❌ Depth (inches): __________
- Water Table Present? Yes ☑ No ❌ Depth (inches): __________
- Saturation Present? Yes ☑ No ❌ Depth (inches): __________
  (includes capillary fringe)

**Wetland Hydrology Present?** Yes ☑ No ❌

**Remarks:**
VEGETATION (Four Strata) – Use scientific names of plants.

Tree Stratum (Plot size: ___________
1. **Quercus phellos**
   - Absolute % Cover: 35
   - Dominant Species?: Yes
   - Indicator Status: FACW

2. **Quercus nigra**
   - Absolute % Cover: 35
   - Dominant Species?: Yes
   - Indicator Status: FAC

3. **Magnolia virginiana**
   - Absolute % Cover: 20
   - Dominant Species?: Yes
   - Indicator Status: FACW

4. **Acer rubrum**
   - Absolute % Cover: 10
   - Dominant Species?: No
   - Indicator Status: FAC

---

Sapling/Shrub Stratum (Plot size: ___________
1. **Liquidambar styraciflua**
   - Absolute % Cover: 25
   - Dominant Species?: Yes
   - Indicator Status: FAC

2. **Quercus phellos**
   - Absolute % Cover: 10
   - Dominant Species?: No
   - Indicator Status: FACW

3. **Callicarpa americana**
   - Absolute % Cover: 5
   - Dominant Species?: No
   - Indicator Status: FACU

---

Herb Stratum (Plot size: ___________
1. **Eupatorium rotundifolium**
   - Absolute % Cover: 15
   - Dominant Species?: Yes
   - Indicator Status: FAC

2. **Saccharum brevifolium**
   - Absolute % Cover: 10
   - Dominant Species?: Yes
   - Indicator Status: FACW

---

Woody Vine Stratum (Plot size: ___________
1. **Browntitch ovata**
   - Absolute % Cover: 15
   - Dominant Species?: Yes
   - Indicator Status: FACW

2. **Smilax glauca**
   - Absolute % Cover: 10
   - Dominant Species?: Yes
   - Indicator Status: FAC

---

**Dominance Test worksheet:**
- Number of Dominant Species That Are OBL, FACW, or FAC: __8__ (A)
- Total Number of Dominant Species Across All Strata: __8__ (B)
- Percent of Dominant Species That Are OBL, FACW, or FAC: __100%__ (A/B)

**Prevalence Index worksheet:**
- Total % Cover of: Multiply by:
  - OBL species __0__ x 1 = __0__
  - FACW species __0__ x 2 = __0__
  - FAC species __0__ x 3 = __0__
  - FACU species __0__ x 4 = __0__
  - UPL species __0__ x 5 = __0__
- Column Totals: __0__ (A) __0__ (B)

Prevalence index = B/A = __0__ (B)

**Hydrophytic Vegetation indicators:**
- **1.** Rapid Test for Hydrophytic Vegetation
- **✓** Dominance Test is >50%
- **3.** Prevalence Index is ≤3.0
- Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**
- **Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- **Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- **Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- **Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**
- Yes ✓ No __

**Remarks:** (If observed, list morphological adaptations below).
SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix</th>
<th>Color (moist)</th>
<th>%</th>
<th>Redox Features</th>
<th>Color (moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc^2</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>10YR 5/2</td>
<td>80-98</td>
<td></td>
<td>10YR 4/6</td>
<td>2-20</td>
<td>C</td>
<td>PL</td>
<td></td>
<td>silt loam</td>
<td></td>
</tr>
<tr>
<td>7-12</td>
<td>10YR 6/2</td>
<td>80-98</td>
<td></td>
<td>10YR 4/6</td>
<td>2-20</td>
<td>C</td>
<td>PL</td>
<td></td>
<td>silt loam</td>
<td></td>
</tr>
</tbody>
</table>

^1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
^2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Mucky Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyclay Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Ochric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F18) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils^3:

- 1 cm Muck (A9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A, B)
- Piedmont Floodplain Soils (F18) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)

^3 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________________________
Depth (inches): __________________

Hydric Soil Present? Yes ☑ No ___

Remarks:
Appendix II

Summary 2002 Charleston SOP for Calculating Required Mitigation Credits

Definitions

**Cumulative impact** factor, \( \sum AA_i \), stands for the sum of the acres of adverse impacts to aquatic areas for the overall project. When computing this factor, round to the nearest tenth decimal place using even number rounding. Thus 0.01 and 0.050 are rounded down to give a value of zero while 0.051 and 0.09 are rounded up to give 0.1 as the value for the cumulative impact factor. The cumulative impact factor for the overall project must be used in each area column on the Required Mitigation Credits Worksheet.

**Duration** means the length of time adverse impacts will last (in years).

**Dominant impact** factors include fill, impound, drain, dredge, clear, and shade.

**Existing Condition** means the degree of disturbance.

*Fully functional* means the system type is functionally naturally. Examples: pristine wetlands or riverine habitats, wetlands with no effective drainage.

*Slightly impaired* means site disturbances have occurred but functional recovery could be reversed through natural processes, such as clear-cut wetlands, utility corridors, wetlands with ditches that impair but don’t eliminate wetland hydrology.

*Impaired* means functional recovery from disturbance is unlikely to occur naturally. Bedded pine monoculture, severely fragmented areas, channelized streams. Vegetated ditches are here included.

*Very impaired* means full recovery would require major restoration effort. Filled areas, drained wetlands.

**Location** is here defined for the GCMBS in order to increase mitigation ratios for impacts occurring further from the mitigation site.

*On site* is here defined as impacts occurring in the Black River, Cache River/Bayou DeView, and Lower White River Wetland Planning Areas.

*Off site* is here defined as impacts occurring in the L’Anguille River, St. Francis, and Big Creek Wetland Planning Areas.

**Lost Type** categories are based on the suite of functions that they perform.

*Type A* includes: Riverine systems including headwaters and riparian zones, Bottomland hardwoods

*Type B* includes: Seeps and bogs, Savannas and flatwoods, Depressions, Pocosins and bays

*Type C* includes: Man-made lakes and ponds, Vegetated lake littoral, Impoundments

Other habitat types need to be evaluated and assigned a category ranking. Farmed wetlands and vegetated ditches are here defined as Type C. Scrub-Shrub wetlands are here defined as Type B.
**Priority Category** means designated areas of aquatic systems that provide functions of recognized importance because of their inherent functions, their position in the landscape, or their rarity.

*Primary priority* areas provide important contributions to biodiversity or high levels of functions contributing to landscape or human values. Examples include Wild and Scenic Rivers, Heritage or TNC natural areas, national wildlife refuges, old growth communities, etc.

*Secondary priority* areas include bay forest, high elevation seep, pond cypress pond, upland depression swamp forest, etc.

*Tertiary priority* areas include cypress-tupelo swamps, bottomland hardwood, pine flatwoods, etc.

**Addendum to Charleston Compensatory Mitigation Method dated September 19, 2002**

This supplement should be used within the Little Rock District Corps of Engineers geographic boundary as a regional modification.

**Lost Type**

**Type A**
- Swamps (Bald Cypress or Tupelo)
- Fens and Seeps
- Rare and Unique Regional Wetlands (such as fens, seeps, and sand depressions)
- Bottomland hardwood wetlands

**Type B**
- Swamps (other than Bald Cypress or Tupelo)
- Wet meadows
- Natural pond borders
- Herbaceous and forested depressions

**Type C**
- Man-made lakes and ponds
- Vegetated lake littoral
- Impoundments
- Shallow cove areas

**Priority Category**

**Primary Priority**
Designated Primary Priority Areas include:
- Wild and Scenic Rivers
- Outstanding Resource Waters
- Essential Fish Habitat
- Waters on the 303(d) list
- Trout waters
- State Heritage Trust Preserves
- National Wildlife Refuges
- Waters officially designated by State or Federal agencies as high priority areas
- Old growth climax communities that have unique habitat structural complexity likely to support rare communities of plants or animals. And the following categories of rare aquatic systems:
  - Upland Bog
  - Fens
  - Sandpond
  - Wet prairie
  - Piedmont Seepage Forest
- Limestone Sink
- Bald Cypress and Tupelo Gum Swamps

**Secondary Priority**
- Carolina Bay
- High Elevation Seep
- Bay Forest
- Salt Shrub Thicket
- Bottomland hardwood
- Swale Pocosin
- Pond Cypress Pond
- Seepage Pocosin
- Upland Depression Swamp Forest

**Tertiary Priority**
- Non-alluvial wetland forest
- Pine flatwoods
- Non-alluvial herbaceous/scrub shrub wetlands
- Waters of the US excluding streams (i.e. ponds)
### Adverse Impact Factors for Wetlands and Other Waters of the U.S. Excluding Streams

<table>
<thead>
<tr>
<th>Factors</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost Type</td>
<td>Type C: 0.2, Type B: 2.0, Type A: 3.0</td>
</tr>
<tr>
<td>Priority Category</td>
<td>Tertiary: 0.5, Secondary: 1.5, Primary: 2.0</td>
</tr>
<tr>
<td>Existing Condition</td>
<td>Very Impaired: 0.1, Impaired: 1.0, Slightly Impaired: 2.0, Fully Functional: 2.5</td>
</tr>
<tr>
<td>Duration</td>
<td>Seasonal: 0.1, 0 to 1: 0.2, 1 to 3: 0.5, 3 to 5: 1.0, 5 to 10: 1.5, Over 10: 2.0</td>
</tr>
<tr>
<td>Dominant Impact</td>
<td>Shade: 0.2, Clear: 1.0, Dredge: 1.5, Drain: 2.0, Impound: 2.5, Fill: 3.0</td>
</tr>
<tr>
<td>Cumulative Impact</td>
<td>0.05 ( \sum AA_i )</td>
</tr>
<tr>
<td>Location</td>
<td>On Site: 0.0, Off Site: 3.0</td>
</tr>
</tbody>
</table>

### Required Mitigation Credits Worksheet

<table>
<thead>
<tr>
<th>Factor</th>
<th>Bottomland Hardwood Wetlands</th>
<th>Bottomland Hardwood Wetlands</th>
<th>Bottomland Hardwood Wetlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost Type</td>
<td>Type A: 3.0</td>
<td>Type A: 3.0</td>
<td>Type A: 3.0</td>
</tr>
<tr>
<td>Priority Category</td>
<td>Secondary: 1.5</td>
<td>Secondary: 1.5</td>
<td>Secondary: 1.5</td>
</tr>
<tr>
<td>Existing Condition</td>
<td>Slightly Impaired: 2.0</td>
<td>Slightly Impaired: 2.0</td>
<td>Slightly Impaired: 2.0</td>
</tr>
<tr>
<td>Duration</td>
<td>Over 10: 2.0</td>
<td>Over 10: 2.0</td>
<td>Over 10: 2.0</td>
</tr>
<tr>
<td>Dominant Impact</td>
<td>Temporary Fill: 3.0</td>
<td>Permanently Clear: 1.0</td>
<td>Temporarily Clear: 1.0</td>
</tr>
<tr>
<td>Cumulative Impact</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Location</td>
<td>Off Site: 3.0</td>
<td>Off Site: 3.0</td>
<td>Off Site: 3.0</td>
</tr>
<tr>
<td>Sum of ( r ) Factors</td>
<td>( R_1 = 14.6 )</td>
<td>( R_2 = 12.6 )</td>
<td>( R_3 = 12.6 )</td>
</tr>
<tr>
<td>Impacted Area</td>
<td>( AA_1 = 0.22 )</td>
<td>( AA_2 = 0.63 )</td>
<td>( AA_2 = 0.71 )</td>
</tr>
<tr>
<td>( R \times AA )</td>
<td>3.21</td>
<td>7.94</td>
<td>8.95</td>
</tr>
</tbody>
</table>

Total Required Credits = \( \sum (R \times AA) = 20.09 \)
PCN CheckList

Job Number: ___070379__________
Job Name: ___Hurricane Creek Str. & Apprs.___________________
Natural Resource Employee: __Kayti Ewing__________________

Does your project occur within (or within a mile of) a special resource waterbody (e.g. ERW, ESW, Natural and Scenic or Wild and Scenic)? No
If yes, PCN required and Individual Water Quality Certification.
Name of waterbody: __________________________________________

Is this a maintenance project involving removal of accumulated sediments near a bridge or culvert? No

A NWP No 14 with more than 0.1 acre impacts OR a discharge into special aquatic site including wetlands, OR in one of the following counties: Cleburne, Van Buren, Conway, Faulkner, OR White? No

Is the project a NWP23? Yes

Is the project in wetlands in one of the following counties: Ashley, Clay, Jackson, Lawrence, Woodruff or Craighead or any of the following waters of the US: Fens, Bogs, Seeps, Dune Depressions or Cache River and adjacent wetlands downstream of Hwy 18? No

Is the project in one of the following counties: Benton or Stone? No

Is the project impacting one of the following creeks or rivers: Saline River (or its major forks Alum, North, Middle, or South), Antoine River, Arkansas River, Big Brusky Creek (Montgomery Co.), Big Creek (Little Red River), Black River, Brush Creek (Perry and Yell co), Buffalo Creek (Polk Co.), Buffalo River, Caddo River, Clear Fork (Scott Co.), Cassatot River, Current River, Eleven Point River, Fiddlers Creek (Montgomery and Yell Co.), Fourche LaFave River (including Dry Fork and South Fork), Frog Bayou, Illinois River (including Muddy Fork), Irons Fork (Polk Co.), Ouachita River (including Iron, North, and South Forks), Kings River, L’ Anguille River, Lewis Creek (Polk Co.), Left Hand and Right Hand Chutes Little River and Ditches, Little Brusky Creek (Montgomery Co.), Little Missouri River (Below Greeson), Little River (above and below Millwood), Little Red River (including Middle, South, Archey, Devil’s Forks, Beech and Turkey Creeks), Mississippi River, Mountain Fork River (Polk Co.), Muddy Creek, Myatt Creek, Rainy Creek (Montgomery Co.), Red River, Robinson Creek (Polk and Sevier Co.), Rolling Fork (Below DeQueen Reservoir), Saline River (including the Alum, Middle, North and South Forks), Saline River (below Dierks Reservoir), Spring River (including South Fork), St. Francis River and Floodway (including Clark Corner Cutoff, Cross County Ditch, the following ditches 10, 123, 60, 61, and 9, Iron Mines Creek, Little Bay Ditch, Little Slough Ditch, St. Francis Bay, and Straight Slough), Strawberry River, Tyronza River, War Eagle Creek, and the White River? No

If you selected yes to any of the questions above a PCN is required

IF PCN is required, is the project in an impaired waterbody for turbidity/siltation, a waterbody with a TMDL for turbidity/siltation or within a mile of one the above? If yes individual Water Quality Certification Required. ___No________
In Reply Refer To: February 23, 2018
Consultation Code: 04ER1000-2018-SLI-0590
Event Code: 04ER1000-2018-E-00850
Project Name: 070379 Richland Creek Str. & Apprs. (S)

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies endangered, threatened, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). This letter only provides an official species list and technical assistance; if you determine that listed species and/or designated critical habitat may be affected in any way by the proposed project, even if the effect is wholly beneficial, consultation with the Service will be necessary.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found on our website.

Please visit our website at http://www.fws.gov/arkansas-es/IPaC/home.html for species-specific guidance to avoid and minimize adverse effects to federally endangered, threatened, proposed, and candidate species. Our web site also contains additional information on species life history and habitat requirements that may be useful in project planning.
If your project involves in-stream construction activities, oil and natural gas infrastructure, road construction, transmission lines, or communication towers, please review our project specific guidance at [http://www.fws.gov/arkansas-es/IPaC/ProjSpec.html](http://www.fws.gov/arkansas-es/IPaC/ProjSpec.html).

The karst region of Arkansas is a unique region that covers the northern third of Arkansas and we have specific guidance to conserve sensitive cave-obligate and bat species. Please visit [http://www.fws.gov/arkansas-es/IPaC/Karst.html](http://www.fws.gov/arkansas-es/IPaC/Karst.html) to determine if your project occurs in the karst region and to view karst specific-guidance. Proper implementation and maintenance of best management practices specified in these guidance documents is necessary to avoid adverse effects to federally protected species and often avoids the more lengthy formal consultation process.

If your species list includes any mussels, Northern Long-eared Bat, Indiana Bat, Yellowcheek Darter, Red-cockaded Woodpecker, or American Burrying Beetle, your project may require a presence/absence and/or habitat survey prior to commencing project activities. Please check the appropriate species-specific guidance on our website to determine if your project requires a survey. We strongly recommend that you contact the appropriate staff species lead biologist (see office directory or species page) prior to conducting presence/absence surveys to ensure the appropriate level of effort and methodology.

Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make “no effect” determinations. If you determine that your proposed action will have “no effect” on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take “after-the-fact.” For more information regarding formal consultation and HCPs, please see the Service’s Consultation Handbook and Habitat Conservation Plans at [www.fws.gov/endangered/esa-library/index.html#consultations](http://www.fws.gov/endangered/esa-library/index.html#consultations).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be
completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
(501) 513-4470
**Project Summary**

Consultation Code: 04ER1000-2018-SLI-0590

Event Code: 04ER1000-2018-E-00850

Project Name: 070379 Richland Creek Str. & Apprs. (S)

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: A bridge replacement in Calhoun County.

Project Location:
Approximate location of the project can be viewed in Google Maps: [https://www.google.com/maps/place/33.45080155938223N92.42209493832863W](https://www.google.com/maps/place/33.45080155938223N92.42209493832863W)

Counties: Calhoun, AR
Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

**Clams**

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pink Mucket (pearlymussel) <em>Lampsilis abrupta</em></td>
<td>Endangered</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>No critical habitat has been designated for this species.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/7829">https://ecos.fws.gov/ecp/species/7829</a></td>
<td></td>
</tr>
<tr>
<td>Rabbitsfoot <em>Quadrula cylindrica cylindrica</em></td>
<td>Threatened</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/5165">https://ecos.fws.gov/ecp/species/5165</a></td>
<td></td>
</tr>
</tbody>
</table>

**Critical habitats**

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.
Job 070379
Hurricane Creek Str. & Apprs.
(Hwy. 172)
Calhoun County

Bridge
UTM NAD83
Northing: 3701414
Easting: 553713

Plot 1
UTM NAD83
Northing: 3701404
Easting: 553694

Plot 2
UTM NAD83
Northing: 3701442
Easting: 553751

Begin Job 070379
End Job 070379

± 0 500 1,000 Feet
AnDOT - Environmental GIS - Dudley
May 7, 2018