**DRAFT**
**ENVIRONMENTAL ASSESSMENT**

**Bayou Meto Basin, Arkansas**
**POST GENERAL REEVALUATION DESIGN CHANGES**
**PHASE 3.1**

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# BAYOU METO BASIN, ARKANSAS
# POST GENERAL REEVALUATION DESIGN CHANGES

**December, 2017**

## 1.0 INTRODUCTION

The Bayou Meto Basin, Arkansas General Reevaluation project area is located in eastern Arkansas and includes portions of Lonoke, Prairie, Jefferson, Arkansas, and Pulaski counties (Figure 1). The project includes waterfowl management, agricultural water supply, flood risk management, water conservation measures, fish and wildlife enhancement, and groundwater management strategies that would be implemented within the project area.

This environmental assessment (EA) addresses the following proposed modifications to the final EIS *Bayou Meto Basin, Arkansas General Reevaluation, 2010*: (1) utilization of Dry Bayou to maintain drainage north of main canal 1000, and (2) additional construction right-of-way (ROW) required for temporary construction work in two areas.

This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and the Council on Environmental Quality's regulations (40 CFR 1500-1508), as reflected in USACE Engineering Regulation 200-2-2. The following sections include a discussion of the purpose and need for the proposed action, the authority for the proposed action, alternatives to the proposed action, important resources affected by the proposed action, and associated impacts of the proposed action.

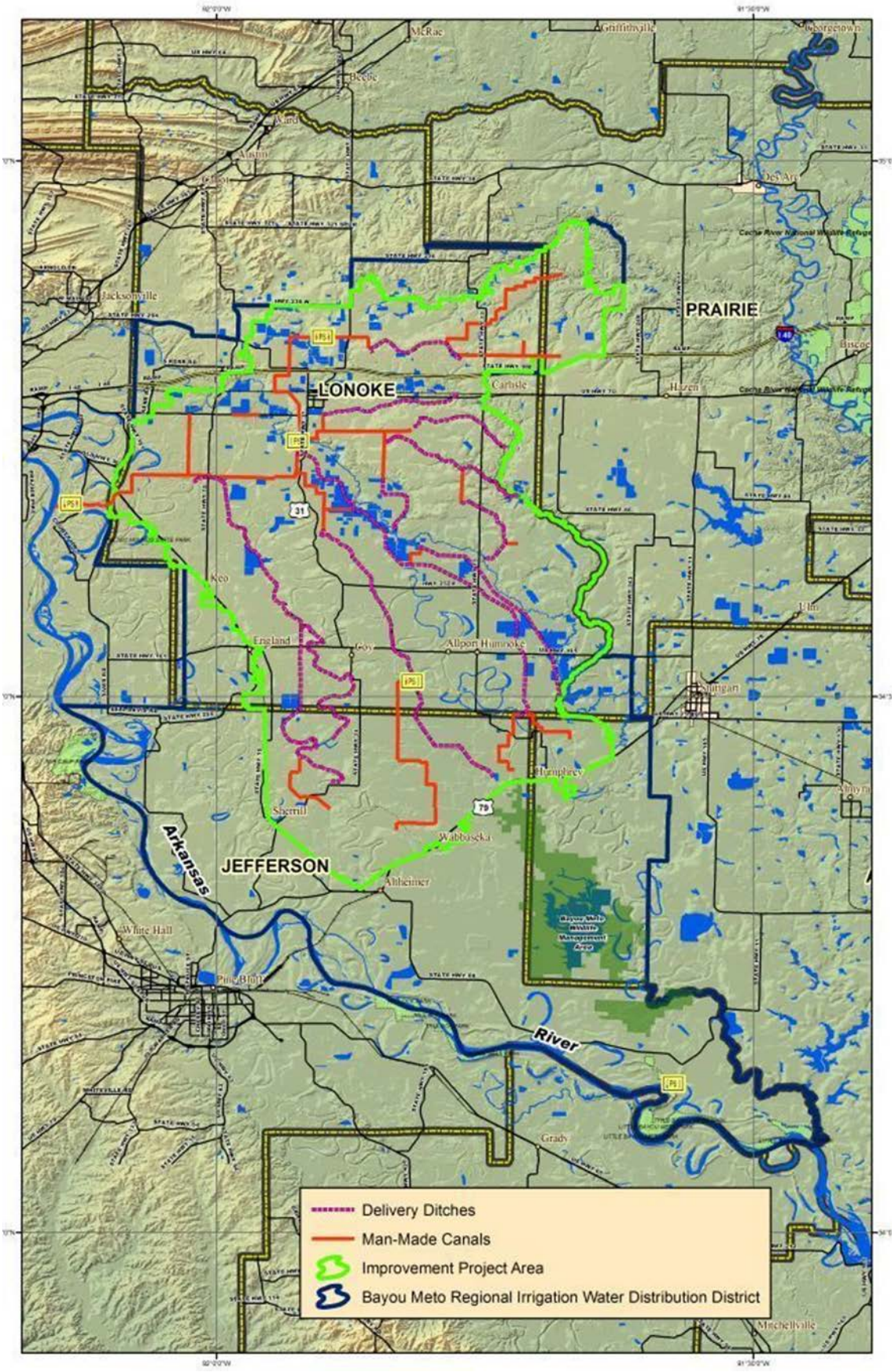


Figure 1. Locations of the Bayou Meto Basin, Arkansas Project in east-central Arkansas.

## 1.1 Proposed Action

The project as described in the EIS and 404(b)(1) evaluation included construction of main canal 1000 and associated structures, including impacts to vegetation within and adjacent to the ROW. However, it was determined during detailed planning for phase 3.1 of the canal design that the most efficient method to maintain the existing drainage through the Dry Bayou area would be cleaning out the Dry Bayou channel to more efficiently drain low areas within canal 1000 ROW and to improve drainage for agricultural land to the north of the canal. The impacts to the existing bayou channel were not addressed in the final EIS or more recent NEPA documents. In addition, it was determined that an additional temporary construction ROW, impacting 0.1 acres of probable wetland habitat, would be required in order to most efficiently construct a culvert under Scott Road. A similar need to more efficiently construct a siphon west of Highway 15 would temporarily impact approximately 0.2 acres of agricultural land (non-wetlands). The proposed project modifications are found in Figure 2.


Figure 2. Locations of the proposed project modifications to the Bayou Meto Basin, Arkansas Project in east-central Arkansas.

It is important to note that this EA covers project changes to the canal 1000 design to date. Detailed designs for other project construction items are at various stages of development. No changes to the

project, in addition to those disclosed in this EA are anticipated. However, the project will continually be reviewed in order to ensure compliance with NEPA.

a) Dry Bayou. The existing stream known as Dry Bayou would be altered to ensure that sufficient capacity is available to drain the low area that exists within the canal 1000 ROW and to provide adequate drainage for agricultural land to the north of the canal. A total of approximately 3.5 acres of a mix of mature cypress trees along the stream bank and understory of sub-canopy trees, vines, and shrubs covering the rest of the area would be disturbed (Figures 2 and 3). The Memphis District, in coordination with the environmental interagency team, determined that the appropriate mitigation for these impacts would be 4.6 acres of BLH restoration, to be included in the on-going concurrent mitigation for the overall project. The interagency team includes representatives of the U.S. Fish and Wildlife Service, the Natural Resources Conservation Service, U.S. Environmental Protection Agency, Arkansas Game and Fish Commission, Arkansas Natural Heritage Commission, Arkansas Department of Environmental Quality, Arkansas Natural Resources Commission, and representatives of the Bayou Meto Water Management District.

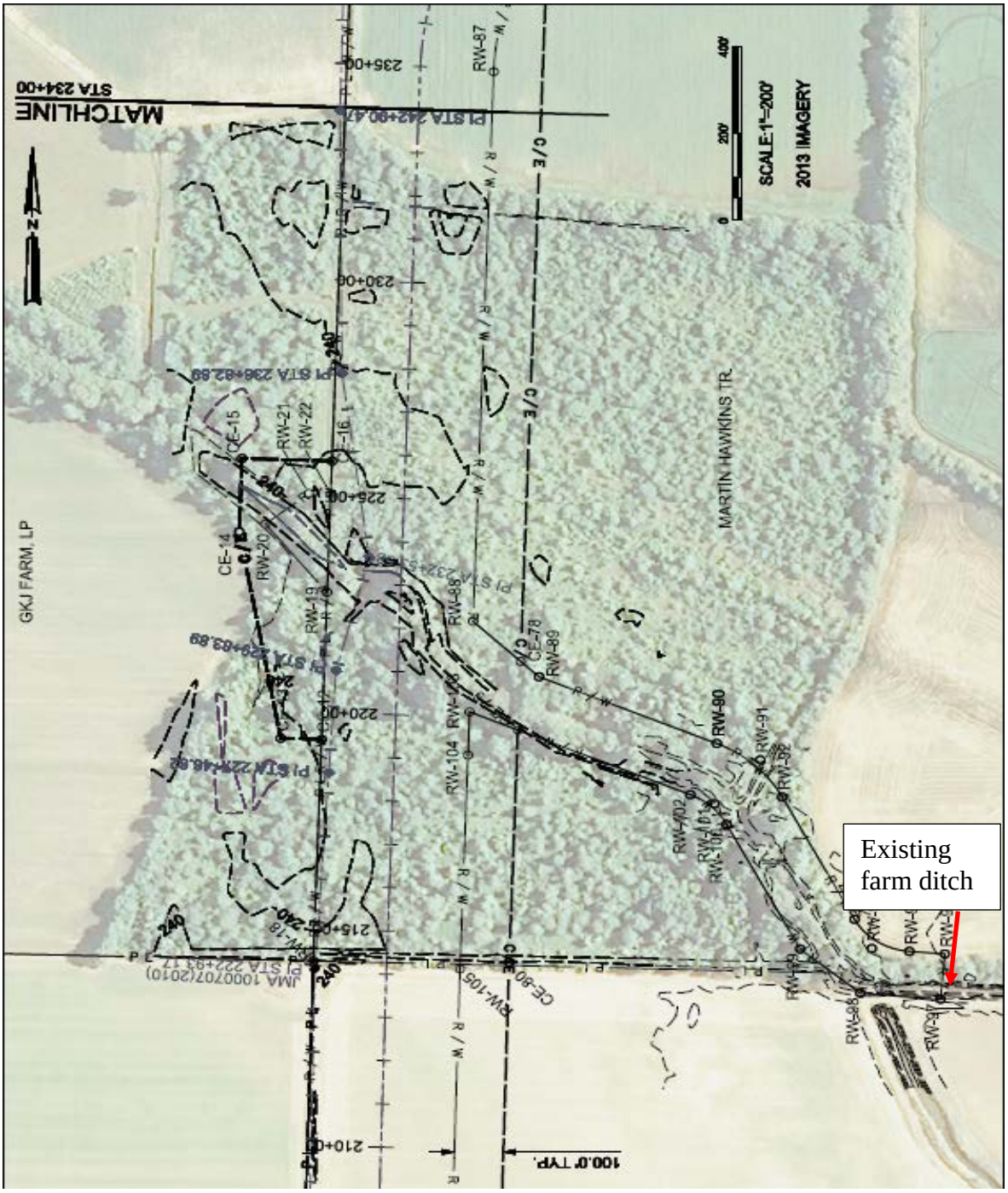

Figure 3. Location of the 3.5 acres of impact associated with the alteration of Dry Bayou in Scott County, Arkansas, to allow for continued drainage into an existing farm ditch.

b) Temporary construction easement.

In order to remove an existing culvert under Scott Road and replace it with a larger culvert more suited to the drainage, 0.1 or less acres of existing vegetated area would be temporarily impacted on the south side of the road (Figures 2 and 4). Mitigation of 0.1 acres would be included in the on-going concurrent mitigation for the overall project. Vegetation consists primarily of shrubs and grasses at this location. The construction of a siphon west of Highway 15 would temporarily impact 0.2 acres of non-wet agricultural land (Figure 5).

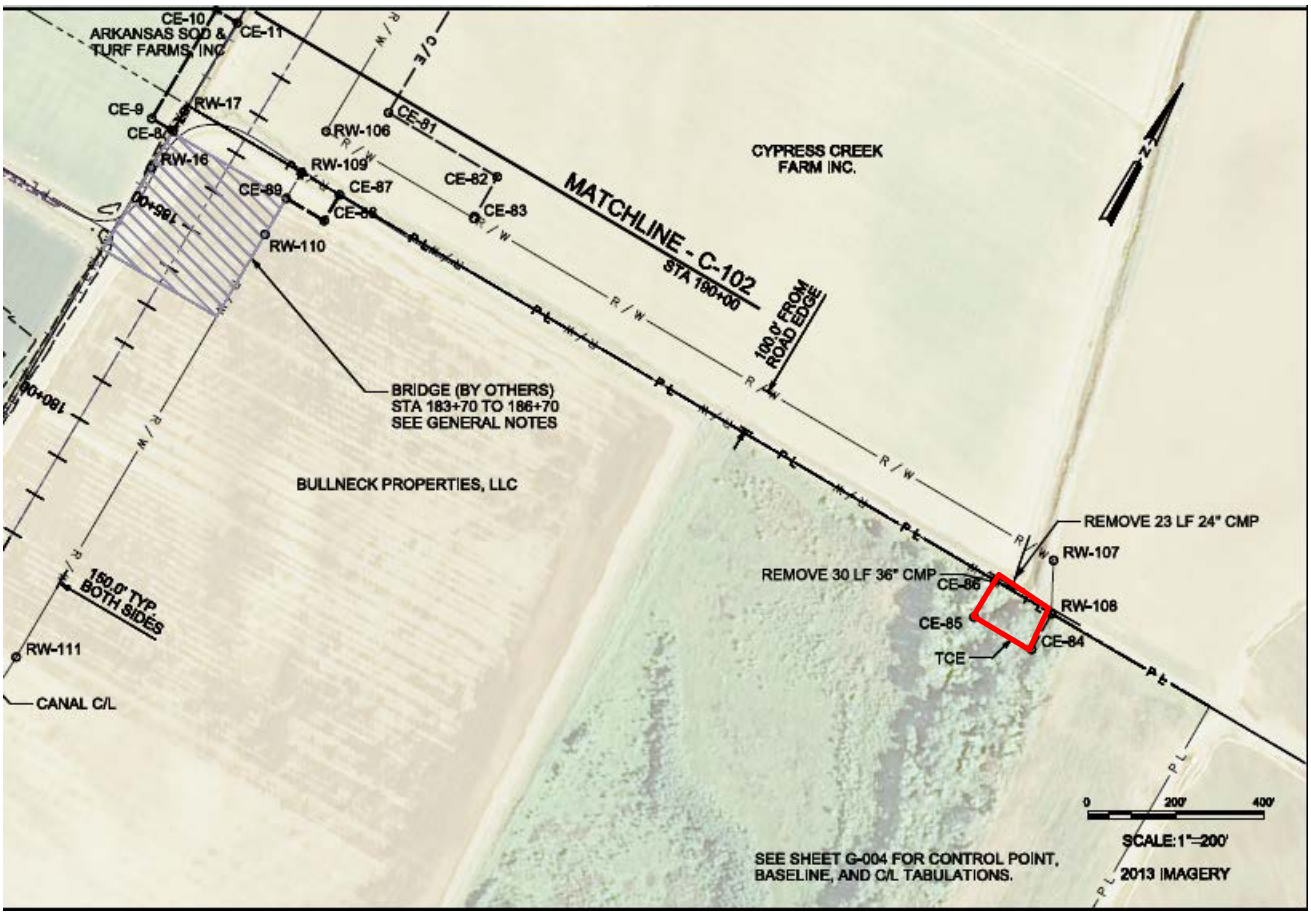


Figure 4. Location of the proposed temporary construction easement for a culvert replacement on the south side of Scott Road, near Scott, Arkansas. Vegetation would regrow once construction was completed.

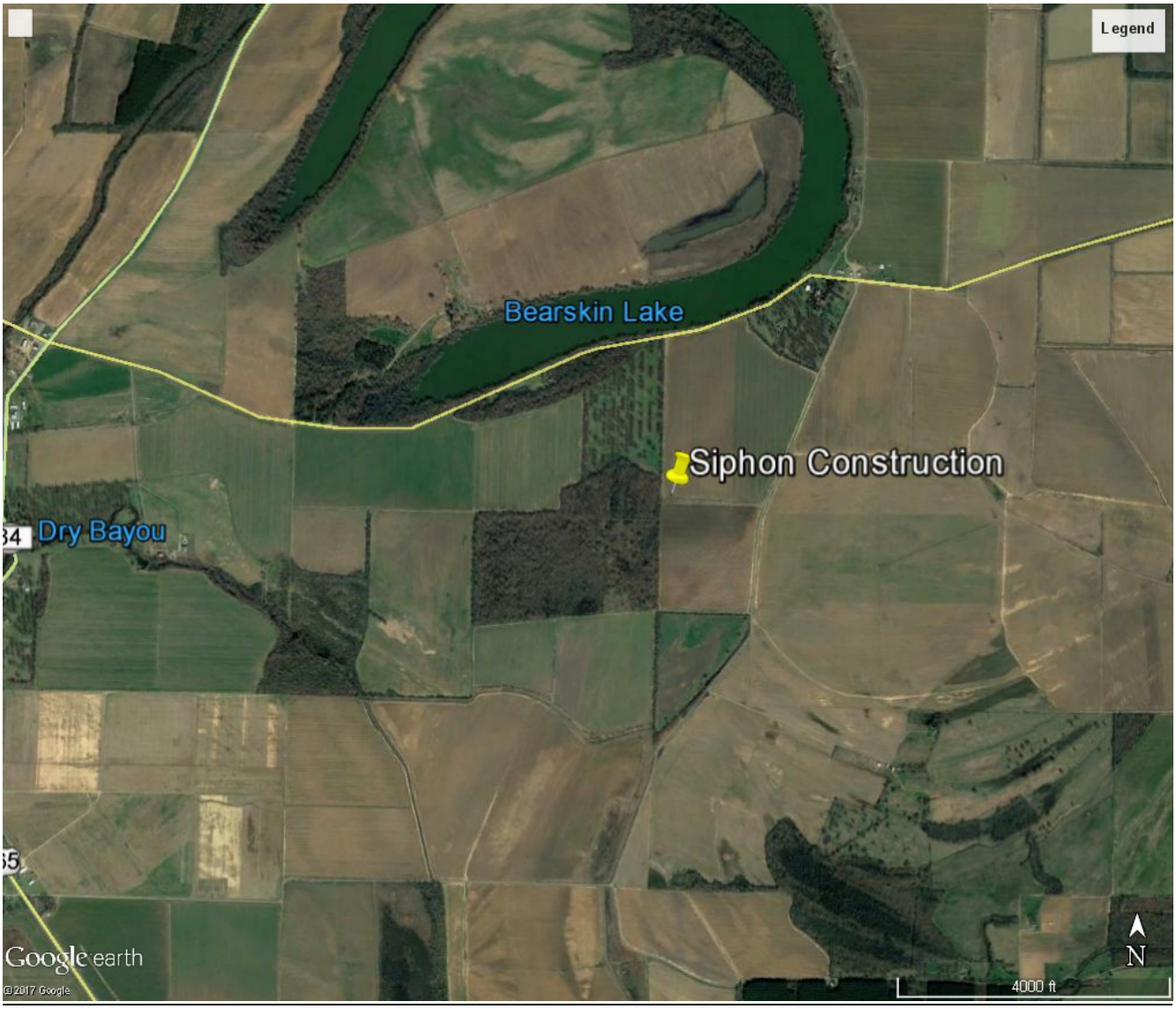

Figure 5. Location of the proposed additional temporary construction easement needed for construction of a previously identified project siphon.

### 1.2 Purpose and Need for the Proposed Actions

The purpose of the proposed actions are to ensure proper drainage in the area of canal 1000 and Dry Bayou and to ensure efficient construction of a siphon and replacement culvert that were part of the original project design that was presented in the Grand Prairie Region and Bayou Meto Basin, Arkansas Project. Bayou Meto Basin, Arkansas General Reevaluation Report, Main Report and Final Environmental Impact Statement, 2010.

### 1.3 Authority for the Proposed Action

The Grand Prairie-Bayou Meto Project was reauthorized by the Water Resources Development Act of 1996 with a broadened scope of work, to include ground water protection and conservation, agricultural water supply, and waterfowl management. Congressional language contained in the Energy and Water Appropriations Act, 1998, directed the Corps to initiate a reevaluation of the Bayou

Meto Basin. The Record of Decision was signed by Major General Riley, Director of Civil Works, in November 2007, authorizing the project as designed.

### 1.4 Prior Reports

A general reevaluation report (GRR) and final environmental impact statement (EIS) were prepared by the U.S. Army Corps of Engineers (USACE), Memphis and Vicksburg Districts, and circulated for public review in December 2006. The record of decision (ROD) was signed in November 2007. These documents can be viewed on the Bayou Meto Basin, Arkansas, web site at http://www.mvm.usace.army.mil/Missions/Projects/Bayou-Meto-Basin-Project/Reports/.

### 1.5 Public Concerns

Public concerns exist regarding the need for an adequate agricultural water supply, flood risk reduction, and waterfowl management benefits. The proposed project modifications would allow for the construction of main canal 1000, while ensuring that the construction would not increase the risk of flooding on the north side of the canal. Agricultural water would be supplied to agricultural lands within the project footprint upon completion of the project, which would allow for the continued production of crops in the area.

## 2.0 Alternatives to the Proposed Actions

### 2.1 Modification 1 – Alteration of Dry Bayou Ditch to allow for more efficient movement of surface water.

**2.1.1 No Action** - With the no action alternative, the bayou channel would not have the capacity to adequately drain the surface water from the area of concern. Stream flows would likely back up onto agricultural land and may induce flooding as a result of canal 1000 construction.

**2.1.2 Increase depth and width of Dry Bayou** – The alteration of the Dry Bayou channel would allow for the efficient drainage of water from the low area within the canal 1000 ROW. This alternative was selected for implementation. Approximately 3.5 acres of BLH would be impacted during the modification of Dry Bayou.

### 2.2 Modification 2 - Acquisition of temporary easements for construction of a culvert and siphon.

**2.2.1 No Action** - With the no action alternative, construction of the culvert and siphon would be made much more difficult and time consuming, as adequate work space would not be present. This would potentially inconvenience users of the roadway and increasing project costs.

**2.2.2 Acquire temporary construction easements.** The efficient construction of a project siphon and culvert requires temporary construction easements at two locations. Only 0.1 acres of vegetated wetlands would be temporarily impacted by the culvert construction, and native vegetation would be allowed to regrow post construction. Only 0.2 acres of non-wet agricultural land would be impacted by the siphon construction. This alternative was selected for implementation.

## 3.0 AFFECTED ENVIRONMENT

### 3.0.1 Environmental Setting

The Bayou Meto Basin, Arkansas, project boundaries have not changed since the completion of the final EIS and are shown in Figure 1. The project area encompasses approximately 765,745 acres within the 1,500-square mile Bayou Meto Basin and includes portions of Lonoke, Jefferson, Prairie, Arkansas, and Pulaski counties. Irrigation is used on 369,874 acres of agricultural land, and 22,942 acres are commercial fishponds. There are approximately 135,586 acres of wetlands within the project area, which comprise approximately 18% of the total area. There are numerous streams and ditches within the project area; Bayou Meto, Bayou Two Prairie, and Wabbaseka Bayou are among the largest of the streams. The Bayou Meto inlet channel and flow regulating reservoir are located on the east side of the Arkansas River just upstream of the David D. Terry Lock and Dam in Pulaski County, Arkansas (Figure 2). Both proposed project modifications are located on the riverside of the Arkansas River Levee system.

### 3.0.2 Climate

Pulaski County lies in the humid subtropical climate zone and has long hot summers and cool winters, with an average high of 91 $^{o}$F in the summer (June through August) and an average low of 33 $^{o}$F in winter (December through February). The total annual precipitation is about 51 inches, varying from a monthly average of 5.7 inches in November, to 2.9 inches in August. Average monthly snowfall is 1.1 inches during the winter months (December through February), but can vary greatly from year to year. Winter ice storms also occur within the area, which can result in severe damage to trees, shrubbery, and power lines.

### 3.0.3 Geology

The alluvial soils in the proposed project area consist primarily of Bruno fine silty loam and Keo silt loams. Both soil types were formed by deposition of materials carried by the Arkansas River. The Bruno soils are excessively well drained and have a low natural fertility, while the Keo soils have moderate to high natural fertility and are well drained. Keo soils support mixed hardwood forests and are well suited to crop production, while the Bruno soils have a low water capacity and are commonly used for pasture (U.S. Soil Conservation Service, 1975).

## 3.1 Relevant Resources

This section contains a description of relevant resources that could be impacted by the project. The relevant resources (Table 1) described in this section are those recognized by laws, executive orders, regulations, and other standards of National, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. The following resources have been considered and found to not be significantly affected by the alternatives under consideration: freshwater marshes, freshwater lakes, state-designated scenic streams, agricultural lands, municipal facilities, municipal utilities, roadways, recreation, air quality, aesthetics, socio-economic, and environmental justice.

**Table 1. Relevant Resources.**

| Resource | Institutionally Important | Technically Important | Publicly Important |
|---|---|---|---|
| **Wetlands** | Clean Water Act of 1977, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968., EO 11988, and Fish and Wildlife Coordination Act. | They provide necessary habitat for various species of plants, fish, and wildlife; they serve as ground water recharge areas; they provide storage areas for storm and flood waters; they serve as natural water filtration areas; they provide protection from wave action, erosion, and storm damage; and they provide various consumptive and non-consumptive recreational opportunities. | The high value the public places on the functions and values that wetlands provide. Environmental organizations and the public support the preservation of marshes. |
| **Wildlife** | Fish and Wildlife Coordination Act of 1958, as amended and the Migratory Bird Treaty Act of 1918. | They are a critical element of many valuable aquatic and terrestrial habitats; they are an indicator of the health of various aquatic and terrestrial habitats; and many species are important commercial resources. | The high priority that the public places on their esthetic, recreational, and commercial value. |
| **Threatened and Endangered Species** | The Endangered Species Act of 1973, as amended; the Marine Mammal Protection Act of 1972; and the Bald Eagle Protection Act of 1940. | USACE, USFWS, NMFS, NRCS, USEPA, and MDNR cooperate to protect these species. The status of such species provides an indication of the overall health of an ecosystem. | The public supports the preservation of rare or declining species and their habitats. |
| **Cultural Resources** | National Historic Preservation Act of 1966, as amended; the Native American Graves Protection and Repatriation Act of 1990; and the Archeological Resources Protection Act of 1979 | State and Federal agencies document and protect sites. Their association or linkage to past events, to historically important persons, and to design and construction values; and for their ability to yield important information about prehistory and history. | Preservation groups and private individuals support protection and enhancement of historical resources. |
| **Water Quality and Aquatic Resources** | Clean Water Act of 1977, Fish and Wildlife Coordination Act. | State and federal agencies recognize value of fisheries and good water quality. The National and state standards are established to assess water quality. | Environmental organizations and the public support the preservation of water quality and fishery resources and the desire for clean drinking water. |

### 3.1.1 Wetlands

There are approximately 89,000 total acres of wetlands within the Bayou Meto project boundaries, consisting of 79,000 acres of BLH forest and approximately 10,000 acres of farmed wetlands. A relatively large amount of the total BLH forest exists within the southern portion of the basin. These forests provide habitat for a few black bears and winter a large number of waterfowl. There are many species of trees found in BLH habitat within the project area including cypress, tupelo, willows, oaks, hickory, elm, and ash. Ground vegetation includes blackberry, greenbrier, poison ivy, and ferns.

### 3.1.2 Wildlife Resources

Impacts of the Bayou Meto project were quantified in the final EIS. Habitat Evaluation Procedures (HEP) were used to determine the direct construction impacts to wildlife (see Volume 10, Appendix D, Section XIII of the General Reevaluation Report, http://www.mvm.usace.army.mil/bayoumeto/Reports.asp). Construction impacts to 1,595 acres of BLH forest would result in the loss of 3,446.4 AAHUs. To mitigate for these impacts, 1,974 acres of prior converted farmland would be restored to BLH forest.

### 3.1.3 Threatened and Endangered Species

One endangered species, the interior least tern, is known to occur within the Bayou Meto Basin, Arkansas, project area. The interior least tern received protection under the endangered species act on June 27, 1985. The interior least tern is a migratory, colonial shorebird. The ivory-billed woodpecker, a rediscovered endangered species, is thought to inhabit the forests in the Cache River Basin, Arkansas but has not been found in the project area and would not be impacted by the proposed modifications. The fish and mussel studies conducted during the general reevaluation did not identify any endangered species within or adjacent to the project area (Volume 10, Appendix D, Section XII).

Two active bald eagle nests were reported in the southern portion of the project area; however, there is no project related construction proposed within 0.5 miles of these sites, and the proposed modifications would be many miles from these nests.

### 3.1.4 Cultural Resources

Due to the nature of the proposed project actions, pursuant to 36 CFR 800.3(a)(1), the District Archaeologist has determined that this project has no potential to cause effects to historic properties eligible for the National Register of Historic Places. Thus, no further Section 106 (NHPA) consultation is required.

### 3.1.6 Water Quality and Aquatic Resources

Water quality was addressed in detail in the final EIS and GRR for the Bayou Meto Basin, Arkansas project and was re-coordinated with the Arkansas Department of Environmental Quality (ADEQ) in May, 2017. None of the modifications proposed in this EA would negatively impact water quality in

either the Arkansas River or the Bayou Meto Basin. ADEQ has confirmed that the Section 401 certification for the Bayou Meto Basin, Arkansas, project is still valid.

## 4.0 Environmental Consequences

### 4.1 Wetlands

No wetlands would be filled as a result of the proposed channel modifications to Dry Bayou; however, approximately 3.5 acres of BLH would be impacted during the proposed construction process. Approximately 0.1 additional acres of vegetated wetlands would be temporarily impacted by the proposed construction of a project culvert along the canal ROW at Scott Road. This disturbance would be of short duration and the vegetation would recolonize after the proposed construction was completed.

### 4.2 Wildlife Resources

The proposed channel alteration of Dry Bayou would result in the loss of 3.5 acres of wildlife habitat due to the one-sided channel clean out. The temporary construction easement needed to construct a culvert under Scott Road would impact approximately 0.1 acres of grass and shrubs adjacent to the road. Mitigation of 4.7 acres of BLH would be required to offset the proposed project modifications discussed in this EA. The temporary easement on agricultural land required for the construction of the siphon would not add significantly to the disruption of wildlife resources that would result from the construction design as previously envisioned.

### 4.3 Threatened and Endangered Species

No federally listed threatened or endangered species have been reported in the vicinity of the proposed project modifications or observed during a site visit with the interagency environmental team in March, 2016. The proposed project modifications discussed in this EA will have no effect on any threatened or endangered species.

### 4.4 Cultural Resources

Although the proposed project modifications have been reviewed by the district archaeologist and found to have no impacts on known cultural resources or historic sites, if prehistoric or historic artifacts, human bones, or other archaeological materials subject to the Native American Graves Protection and Repatriation Act (NAGPRA) are found during construction, all activities are to cease immediately in that area and the Memphis District Archaeologist, shall be contacted. The Arkansas State Historic Preservation Officer and tribal NAGPRA representatives, the local sheriff, etc., will be contacted as required by state and federal law.

### 4.5 Water Quality and Aquatic Resources

Impacts to aquatic resources related to the actions proposed in this EA would create short-term impacts to an approximately 0.4 mile long reach of Dry Bayou during channel modification. Likely impacts

would include loss of aquatic macroinvertebrates such as insects, oligochaetes and crawfish. Some species of fish such as mosquito fish and other smaller species would possibly be impacted during the modification of the channel, and would likely retreat downstream to the agricultural ditch that the bayou drains into before returning upstream after construction was completed.

### 4.6 Hazardous, Toxic, and Radioactive Waste (HTRW)

Engineering Regulation 1165-2-132, Water Resources Policies and Authorities for Hazardous, Toxic, and Radioactive Waste for Civil Works Projects, requires the performance of a hazardous, toxic, and radioactive waste (HTRW) assessment(s) to determine the potential for encountering any HTRW at or near Corps civil works projects.

A Phase 1 Assessment was conducted over the entire Bayou Meto Basin, Arkansas, project area to determine the potential for HTRW occurring within the project-affected area during the project planning effort. Site inspections, aerial videotape and photography review, document research, and coordination with appropriate agencies were performed in conducting this assessment. No sites of concern were identified within the footprint of the proposed project modifications. In addition, a record search was conducted for this environmental assessment through the Environmental Protection Agency's (EPA) EnviroMapper Web Page (http://maps.epa.gov). The EPA search engine was checked for any superfund sites, toxic releases, or hazardous waste sites within the vicinity of the proposed project area. No such sites were noted on the EPA web page within a five mile radius of the proposed project area. A phase 1 field assessment was conducted for the proposed borrow site and access locations, and no evidence of HTRW materials was uncovered. Based upon the phase 1 assessments and a check of the EPA Web Page, it is reasonable to assume that no HTRW contamination would be encountered within the project area. No additional HTRW investigations are recommended. No other analysis is required unless new information is revealed or HTRW is discovered during construction.

## 5.0 Cumulative Effects

Cumulative impact is defined as the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 CFR § 1508.7).

The cumulative effects of the Bayou Meto Basin, Arkansas, project were discussed in the final EIS. None of the proposed modifications would significantly increase the cumulative effects of the project.

## 6.0 Mitigation

Using the ratio developed by Hydrogeomorphic (HGM) and BLH experts, and agreed upon by the interagency team, the impacts to 3.6 acres of BLH and other vegetative habitat by the proposed project modifications addressed in this EA require the restoration of 4.7 acres of BLH on prior converted agricultural land. A tract of land was previously purchased by the local sponsor adjacent to the Holland Bottoms Wildlife Management Area near Jacksonville, Arkansas. Approximately 99 acres of this tract were determined to be prior converted farmland and thus available for project mitigation needs. The entire 99 acres was planted with a mix of seven different BLH tree species. Prior to the

proposed modification detailed in this EA, project impacts have resulted in the use of 80.7 acres of this tract to offset impacts. The 4.7 acres of mitigation required for the impacts discussed in this EA will be subtracted from the remaining 18.3 acres available in the Holland Bottoms tract.

## 7.0 Compliance with Regulations

Project compliance with applicable federal and state regulations is shown in Table 1 in the Appendix. Review of the draft EA by appropriate agencies and individuals and a finding of no significant impact (FONSI) would bring the project into full compliance with the listed laws and regulations.

**Table 1. Relationship of Plan to Environmental Laws and Regulations**

The relationships of the recommended plan to the requirements of environmental laws, executive orders, and other policies are presented below:

| Federal Policies and Acts | Compliance Status |
|---|---|
| Archaeological Resources Protection Act of 1979 | 1 |
| Bald Eagle Act | 1 |
| Clean Air Act Amendments of 1977 | 1 |
| Clean Water Act of 1977, as amended | 1 |
| Endangered Species Act of 1973, as amended | 1 |
| Fish and Wildlife Coordination Act of 1958 | 1 |
| Flood Control Act of 1946, as amended | 1 |
| Food Security Act of 1985 | 1 |
| Land and Water Conservation Fund Act | 1 |
| National Environmental Policy Act of 1969 | 2* |
| National Historic Preservation Act of 1966, as amended | 1 |
| River and Harbor and Flood Control Act of 1970 | 1 |
| Water Resources Development Act of 1986 | 1 |
| Water Resources Planning Act of 1965 | 1 |
| Executive Orders | |
| Floodplain Management (E.O. 11988) | 1 |
| Protection, Enhancement of the Cultural Environment (E.O. 11593) | 1 |
| Protection of Wetlands (E.O. 11990) | 1 |
| Other Federal Policies | |
| Water Resources Council, Economic and Environmental | 1 |
| Principles and Guidelines for Water and Related | 1 |
| Land Resources Implementation Studies | 1 |

1/ Full compliance with the policy and related regulations has been accomplished.

2/ Partial compliance with the policy and related regulations has been accomplished.

*Full compliance would be met following the Finding of No Significant Impact.

## 8.0 Coordination

Project modifications have been coordinated with the project interagency environmental team. The team is comprised of representatives from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Arkansas Game and Fish Commission, Arkansas Natural Heritage Commission, ADEQ, Arkansas Natural Resources Commission, U.S. Environmental Protection Agency, and the Bayou Meto Water Management District. In addition, this draft environmental assessment is being coordinated with these agencies and other interested parties.

## 9.0 Conclusion

During the detailed design of the Bayou Meto Basin, Arkansas, main canal 1000, a requirement for two modifications to the project as detailed in the final EIS and GRR were identified. The proposed alteration of Dry Bayou to better drain areas to the north of the main canal was identified, and two additional temporary easements along the canal right of way were found to be necessary for efficient construction of a siphon and culvert.

The proposed modifications included in this draft EA would result in the need to mitigate for 3.6 acres of impacts by restoring 4.7 acres of BLH. This amount would be deducted from the surplus acres remaining at the Holland Bottoms mitigation tract. No other significant project modifications, in addition to the changes disclosed in this EA, are anticipated. However, the Memphis District and interagency team will continually review the project to ensure NEPA compliance. The proposed design modifications do not constitute a major federal action that would significantly affect the human environment. Therefore, a supplemental EIS is not required.

## 10.0 Prepared by

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## LITERATURE CITED

U.S. Soil Department of Agriculture, Soil Conservation Service in Cooperation with Arkansas Agricultural Experiment Station. 1975. *Soil Survey of Pulaski County, Arkansas*.