



# Stream And Wetlands Report

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I-530-Hwy. 67 (Widening &  
Reconstruction) (I-30 & I-40) (F)

Pulaski County, Arkansas

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## TABLE OF CONTENTS

1.0	Executive Summary.....	1
1.1	Project Corridor.....	1
1.2	Wetland Types.....	1
1.3	Project Impact.....	1
2.0	Introduction.....	1
3.0	Project Area Description.....	2
4.0	Wetland and Stream Descriptions.....	3
4.1	Site Hydrology.....	3
4.2	Site Soils.....	3
4.3	Wetland and Stream Types.....	4
4.3.1	Forested Wetlands (PFO).....	4
4.3.2	Scrub-Shrub Wetlands (PSS).....	6
4.3.3	Emergent Wetlands with Persistent Vegetation (PEM1).....	7
4.3.4	Riverine Lower Perennial Unconsolidated Shore Vegetated (R2UB).....	8
4.4	Streams.....	8
5.0	Conclusion.....	9
6.0	References.....	12

## FIGURES

Figure 1: Project Location Map.....	12
Figure 2: Map Legend (USGS Overview).....	13
Figure 3: Map Legend (Aerial Overview).....	14
Figure 4: Stream and Wetlands Map.....	15

## TABLES

Table 1: Wetland Summary.....	10
Table 2: Stream Summary.....	11

## ATTACHMENTS

Attachment A: Soil Maps

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## 1.0 EXECUTIVE SUMMARY

### 1.1 Project Corridor

The Arkansas State Highway and Transportation Department (AHTD) has implemented an accelerated State Highway Construction and Improvement Program called the Connecting Arkansas Program (CAP). A major component of the CAP is the CA0602 Interstate 530 (I-530) – Highway (Hwy.) 67 Widening & Reconstruction Project (Interstate 30 (I-30) & Interstate 40 (I-40)). CA0602 will widen and reconstruct I-30 from I-530/ Interstate 440 (I-440) to I-40, including the Arkansas River Bridge, and I-40 from County Road (C.R.) 365 (MacArthur Drive [Dr.]) to Hwy. 67 for a project length of approximately 7.3 miles. The environmental study area is a conservative estimate of the maximum extent of potential impacts associated with planned road widening activities. The survey extended to the limits of the existing transportation right-of-way (ROW) in areas where proposed work would be within that ROW, to the limits of proposed new ROW where work would result in acquisition of new ROW, and typically 100 feet from the edge of the existing roadway where specific work limits were unknown. At the southern end of the project area, the survey extended 300 feet from the edge of pavement.

### 1.2 Wetland Types

Six wetland types with various water regimes ranging from saturated to intermittently flooded were delineated and classified during field investigations:

- Forested Wetlands with Broad-leaved Deciduous Trees (PFO1)
- Forested Wetlands with Deciduous Trees (PFO6)
- Scrub-Shrub Wetlands with Broad-leaved Deciduous Shrubs (PSS1)
- Scrub-Shrub Wetlands with Deciduous Shrubs (PSS6)
- Emergent Wetlands with Persistent Vegetation (PEM1)
- Riverine Lower Perennial Unconsolidated Shore Vegetated (R2US5)

### 1.3 Project Impact

A total of 66.01 acres of wetlands and 16,631 linear feet of streams were identified within the study area limits. Design is still preliminary; therefore, potential project impacts to these systems are not presented at this time. Avoidance and minimization efforts will be employed throughout the design process and impact calculations will be completed prior to the completion of the Section 404 permit application.

## 2.0 INTRODUCTION

The Arkansas State Highway and Transportation Department (AHTD) is financing an accelerated State Highway Construction and Improvement Program called the Connecting Arkansas Program (CAP). A component of the CAP is the CA0602 I-530 – Hwy. 67 (Widening & Reconstruction) (I-30 & I-40) (F) project (Figure 1). CA0602 will widen and reconstruct I-30 from I-530 to I-40, including the Arkansas River Bridge, and I-40 from Pike Avenue to Hwy.67 (Figure 1).

During July 21-24, 2015, CH2M conducted wetland and stream delineations along the corridor in support of the proposed project. This initial delineation was supplemented by

additional field work completed August 17-21, 2015, December 8-11, 2015, and July 7, 2016.

Wetlands were delineated in conformance with the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (Technical Report Y-87-1), the 2010 Regional Supplement to the Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0). The Classification of Wetlands and Deepwater Habitats of the United States (Cowardin System) was used to classify identified wetlands and watercourses (Cowardin et al, 1979).

The project corridor runs from the north bank of Fourche Creek that crosses I-530, across the Arkansas River, through a highly populated area of Little Rock and North Little Rock (Figures 2 and 3). The environmental study area is a conservative estimate of the maximum extent of potential impacts associated with planned road widening activities. The survey extended to the limits of the existing transportation right-of-way (ROW) in areas where proposed work would be within that ROW, to the limits of proposed new ROW where work would result in acquisition of new ROW, and typically 100 feet from the edge of the existing roadway where specific work limits were unknown. At the southern end of the project area, the survey extended 300 feet from the edge of pavement. The extent of survey in the northwestern portion of the project area extended only as far as JFK Boulevard. Wetland boundaries were surveyed using a Trimble GeoXH 6000 handheld GPS unit with an external satellite receiver.

### 3.0 PROJECT AREA DESCRIPTION

The CA0602 project area is located in the lower 41 miles of the low-gradient Arkansas River that was once part of the ancestral Mississippi River Valley. Little Rock and North Little Rock are separated by the Arkansas River and the project area is surrounded by rolling hills, dense vegetation, a variety of wetlands, and urban development. This area is known primarily for cypress swamps and bottomland hardwood forests, but contains five major hydrogeomorphic (HGM) classes of wetlands: riverine, depression, slope, mineral soil flat, and lacustrine fringe. The State of Arkansas uses five Wetland Planning Regions to classify and describe wetlands. The five main planning regions are the Ozark Mountains, Arkansas Valley, Ouachita Mountains, Coastal Plain, and Delta (Arkansas Multi-Agency Wetland Planning Team 2003). The project is situated on the boundary of four of these planning regions, as shown on Figure 1. The project is also within the USACE's Atlantic and Gulf Coastal Plain Region, and specifically in the subregion called the Mississippi Alluvial Valley Subregion (LRRO).

The general area around Little Rock supports a variety of tree species, with dominance generally determined by moisture gradients ranging from nearly permanently inundated to seasonally saturated. Within the area there are riverine and depressional wetlands, low terraces, and low ridges, with each landform supporting characteristic species. Wetlands commonly occur in floodplain and riparian areas along rivers and streams. Within the North Little Rock portion of the study area, many streams have been channelized and deepened and wetlands no longer occur adjacent to the channelized stream due to the altered hydrology. In this area, wetlands tend to occur along terraces that retain water away from the zone of hydrologic alteration adjacent to the channels.

Historical hydrologic modifications for agriculture are very common in the study area, with additional disturbances associated with human development including railroads, highways, residential areas, and commercial development. In the northern portion of the study area, some streams have been redirected as a result of development.

#### 4.0 WETLAND AND STREAM DESCRIPTIONS

An initial desktop evaluation was conducted to identify likely stream and wetland locations within the study area. Topographic contours, Natural Resources Conservation Service (NRCS) soils mapping, aerial imagery, and other sources from the literature were evaluated.

During the field delineations, the characteristics of each wetland were recorded and then wetland determination data forms were completed for each wetland. Where wetland upland boundaries occurred along natural gradients, representative upland data points were collected to document the transition point from wetland to upland. At locations where the wetland/upland boundary occurred along compacted and fill material associated with previous roadway construction and where the wetland/upland boundary was abrupt representative upland data points were not collected.

The locations of delineated wetlands and wetland data points are shown on the maps presented as Figure 4. Wetlands that possess a hydrologic connection with each other within the study area were generally grouped together and given the same identifier, regardless of wetland type. Therefore some wetland identifiers contain multiple community types, as shown on the Figure 4 maps. Photographs and sample point data forms for each delineated wetland follow each map. General information on the wetlands and streams identified in the study area is presented in Table 1 and 2, respectively.

##### 4.1 Site Hydrology

Primary indicators of hydrology found in wetlands within the study area included oxidized rhizospheres on living roots, surface water, high water table, saturation, water marks, and water-stained leaves. Observed secondary indicators of hydrology included sparsely vegetated concave surfaces, drainage patterns, crayfish burrows, and geomorphic position.

##### 4.2 Site Soils

NRCS soil mapping (Appendix A) indicates that a wide variety of soils exist in the study area. Throughout the study area along I-30 soils are predominantly disturbed urban land. The major mapped soil types are:

- Urban land, which is highly disturbed and consists mainly of land mostly covered by streets, parking lots, buildings, and other structures of urban areas. (NRCS 2015)
- Linker Mountainburg Association, moderately steep, which are well-drained nearly level to moderately steep, loamy and stony soils on hillsides and ridges. The soils formed in loamy residuum weathered from sandstone. (NRCS 2015)

- Perry clay, which consists of very deep, poorly drained, very slowly permeable soils that formed in clayey alluvium. These 90 percent hydric soils are on level to gently undulating alluvial plains of the Arkansas and Red Rivers and their distributaries. Slopes range from 0 to 3 percent. (NRCS 2015)
- Perry Urban land complex, 0 to 1 percent slopes, which consists of very deep, poorly drained, very low to moderately low permeable soils that formed in clayey alluvium. These partially (55 percent) hydric soils are found in backswamps with slopes that range from 0 to 1 percent. (NRCS 2015)

Streams, drainages, and other wetland areas are apparent in the study area, and the soil survey indicates that some of the mapped soils in the study area (Perry clay and Perry Urban land complex) are hydric soils. These two soil type are poorly drained and often contain a higher percentage of clays than the silt loams in upland areas. In addition, the depth to the water table for these soils is often within 24 inches of the ground surface. Well drained soils in this complex have a higher percentage of gravely, fine sandy loam and a water table greater than 80 inches of the soil surface.

Soils were examined at numerous locations during the site visit to perform the wetland delineation and establish the wetland boundary. Soils examined included hydric and non-hydric soils.

#### 4.3 Wetland and Stream Types

The following sections discuss the various wetlands and streams within the study area. Six wetland types were identified within the study area. Some wetlands consist of multiple wetland types (combinations of emergent, scrub-shrub, and forested) while others are a single wetland type.

##### 4.3.1 Forested Wetlands (PFO)

Forested wetlands along the project corridor are typically associated with stream systems or historical floodplains. Large contiguous forested wetlands occur south of I-40 in the northeastern portion of the study area. Much of the southern portion of the study area also consists of large tracts of forested wetlands. Forested wetlands in the northern portion of the study area are associated with highly altered channelized streams/canals and with developed areas, such as rail yards, that have constrained or otherwise altered natural water flows. Forested wetlands in the southern portion of the study area are associated with the Fourche Creek system, which flows into the Arkansas River. All forested wetlands in the study area have been altered by anthropogenic activities including mining, road construction, and past agricultural practices.

Wetland 1 is a small isolated forested wetland dominated by black willow (*Salix nigra*). This wetland occurs in a topographic low spot on the north side of I-40 and has no outflow. Persimmon (*Diospyros virginiana*) saplings are common in the wetland and mature persimmons are found upslope of the wetland. Green ash (*Fraxinus pennsylvanica*) saplings, Chinese privet (*Ligustrum sinense*), and wax myrtle (*Morella cerifera*) also are common in the understory. Soft rush (*Juncus effuses*) and bearded sedge (*Carex comosa*) dominate the ground cover.

Wetland 3 is largely forested, but also includes maintained emergent wetlands. The forested component is dominated by black willow and green ash. The understory is comprised of Chinese privet and American hornbeam (*Carpinus caroliniana*). This wetland is located between east and west travel lanes on I-40. The western portion is primarily forested and the eastern portion includes maintained emergent wetlands that surround Stream 1.

Several forested wetlands along the I-40 corridor in the northeastern portion of the study area are similar to each other. These wetlands include Wetland 2, Wetland 4, Wetland 5, Wetland 7, and Wetland 8. Dominant canopy species include green ash, silver maple (*Acer saccharinum*), red maple (*Acer rubrum*), slippery elm (*Ulmus rubra*), and black willow. Saplings of the dominant tree species are common components of the understory. Chinese privet is common in the understory in areas where inundation/saturation appears more seasonal, while buttonbush (*Cephalanthus occidentalis*) is found in wetlands with more prolonged inundation/saturation. Buckwheat vine (*Brunnichia ovata*), lizard's tail (*Saururus cernuus*), smartweeds (*Persicaria spp.*) and sedges (*Carex spp.*) are found in the ground-cover.

Wetland 9 contained a mix of broad-leaved and needle-leaved deciduous trees. Dominant deciduous canopy trees include green ash, black willow and silver maple. Bald cypress (*Taxodium distichum*), a needle-leaved deciduous tree, is a non-dominant component of the canopy in this wetland. The wetland is seasonally inundated, and surface water was lacking in August 2015 at the time of the survey, but was present in December 2015. Ground cover is very sparse within the wetland.

Wetland 11 is a complex wetland with forested, scrub-shrub, and emergent components, but only the forested and scrub-shrub components extend into the study area. The forested portion is dominated by silver maple and black willow, with buttonbush and Chinese privet in the understory. This wetland receives water from the residential area upslope and drains into Stream 6.

In the southern portion of the study area, broad-leaved deciduous forested wetlands are similar to those in the northern part of the study area, except that willow oak (*Quercus phellos*) is also a canopy species and the overall age of the forested wetland is greater, as indicated by larger tree sizes. In areas where there have been recent mature tree falls, sedge stands can be extensive within the forested wetlands.

The forested components of Wetland 14 and Wetland 15 are dominated by black willow and green ash. Persimmon and willow oak are common in Wetland 15 and are more abundant further from the boundary sample point.

Wetland 16 is dominated by green ash in the canopy with buttonbush as the major understory component. This wetland has light ground cover dominated by buckwheat vine, water-pepper (*Persicaria hydropiper*), and cat-tail sedge (*Carex typhina*).

Wetland 17 is predominantly forested, but has portions that are emergent. The forested portion occurs both north and south surrounding one of the emergent areas, which is beneath and on each side of the I-440 overpass. The forested portion also extends along Highway 65 and east bound I-440. Wetland 17 is dominated by willow oak, green ash, American elm, cedar ash (*Ulmus crassifolia*) and cherrybark oak (*Quercus pagoda*). The understory contains only small oaks and ground cover is nearly absent.

The eastern boundary of Wetland 17 encompasses a portion of Stream 14, which appears to have been straightened and deepened historically to facilitate drainage.

Wetlands 18 and 19 are dominated by black willow and green ash with buttonbush in the understory. Due to increased sunlight reaching the ground as a result of falls of large black willows in Wetland 18, fringed sedge provides full ground cover.

Wetland 20 has both forested and emergent components. The forested portion of Wetland 20 is dominated by green ash in the canopy and understory strata. Soft rush is the primary ground cover. The emergent portion of Wetland 20 is within the maintained transportation ROW.

Wetland 21 is along the east side of the flyover ramp from I-440 to I-30 westbound. The forested wetland is dominated by green ash, sweetgum (*Liquidambar styraciflua*), and American elm, with blunt broom sedge (*Carex tribuloides*) providing ground cover.

#### 4.3.2 Scrub-Shrub Wetlands (PSS)

Scrub-shrub wetlands along the project corridor typically occur at the margins of open water areas or near stream systems. They often occur between emergent and forested portions of a large wetland and reflect the gradual transition between the herbaceous and forested components. In some areas, emergent wetlands are transitioning to scrub-shrub wetlands because the fields or ditches are no longer actively maintained. Common wetland vegetation includes small trees and shrubs such as black willow, green ash, American elm, Chinese privet, and buttonbush. The herbaceous layer often consists of sedges, and buckwheat vine, with buckwheat vine being the dominant species in some wetlands.

Wetland 3 also contains a scrub-shrub area located along the riparian zone of Stream 1 in a utility ROW. In this wetland, buttonbush is the dominant shrub species, although the area is mowed frequently and thus is maintained in a disturbed state. Herbaceous species amid the buttonbush stems include fringed sedge, switchgrass (*Panicum virgatum*), and water-pepper; and in lower, wetter areas Pennsylvania smartweed (*Persicaria pensylvanica*) and soft rush are common.

Wetland 4 also contains a small scrub-shrub component dominated by buttonbush beneath the flyover onramp for I-30 from Hwy. 67. This is a narrow strip within the larger forested wetland that is maintained free of trees for the flyover onramp.

Wetland 6 is a scrub-shrub wetland dominated by buttonbush and saplings of green ash and black willow. Dominant herbaceous species include broad-leaf cat-tail (*Typha latifolia*), Pennsylvania smartweed, and alligator weed (*Alternanthera philoxeroides*). This wetland is within an electrical transmission ROW and regular maintenance of the ROW prevents mature trees from developing.

Wetland 11 also contains a small component of buttonbush scrub-shrub wetland at the edge of the ROW. Buttonbush comprises the shrub stratum and the herbaceous dominants include velvet panicum (*Dichanthelium scoparium*) and soft rush. This is a small patch within the larger forested wetland.

The scrub-shrub component of Wetland 14 is dominated by a mix of broad-leaved and needle-leaved deciduous woody plants. Bald cypress saplings make up the needle-leaved portion and green ash saplings the broad-leaved deciduous component. It is

likely that this wetland will transition to a forested wetland as these trees mature. In addition to the saplings of bald cypress and green ash, this wetland contains broad-leaved shrub buttonbush. This wetland is semi-permanently inundated and is an open water-cypress savanna. Swamp smartweed (*Persicaria hydropiperoides*) and floating primrose willow (*Ludwigia peploides*) are found around the margins where the wetland transitions to emergent or scrub-shrub. This wetland is a secondary successional system that likely was previously cleared or that is developing from abandoned lands where emergent wetlands are transitioning to scrub-shrub wetlands because they are no longer actively maintained.

The scrub-shrub component of Wetland 15 is dominated by buttonbush, and to a lesser extent, by persimmon saplings. Horned beaksedge (*Rhynchospora corniculata*) and crimson-eyed rose-mallow (*Hibiscus moscheutos*) are the non-woody dominant species.

#### 4.3.3 Emergent Wetlands with Persistent Vegetation (PEM1)

The majority of emergent herbaceous wetland systems along the project corridor are typically associated with clearings along the roadways or within larger areas that were cleared historically. The establishment of woody vegetation is often prevented by active land management such as routine mowing or utility ROW or by the presence of persistent deep water that prevents germination of woody plant seeds.

Wetland 3 occurs along the riparian zone of Stream 1 in a utility ROW. A forested portion of the wetland is outside of the maintained utility ROW, as described previously in Section 4.3.1. In lower, wetter areas of the wetland, Pennsylvania smartweed and soft rush are common. This wetland appears to have an emergent component that is mowed frequently and an emergent component that is maintained in a disturbed state.

Wetland 4 has two emergent wetland components: a small component of emergent wetland beneath the Hwy. 67 flyover onramp for I-40 and a larger emergent component within maintained ROW that parallels I-40 just to the east of Stream 3. The emergent component beneath the flyover ramp is a narrow strip within the larger forested wetland that is vegetated solely by lizard's tail. The emergent component east of Stream 3 is larger and is regularly mowed. This emergent wetland is dominated by smartweeds, shallow sedge (*Carex lurida*), soft rush, deer-tongue rosette grass (*Dichanthelium clandestinum*), and smooth hedge-nettle (*Stachys tenuifolia*).

Wetland 5 has an emergent component along Stream 2 that appears to be mowed infrequently and an emergent component that is maintained in a disturbed state. These emergent portions are dominated by horned beaksedge, rushes (*Juncus scripoides* and *Juncus acuminatus*), and southern cutgrass (*Leershia hexandra*).

Wetland 7 has an emergent component that parallels I-40 along the northeastern boundary of the wetland. The emergent component of Wetland 7 is dominated by smartweeds and buckwheat vine.

Wetland 10 is mostly comprised of a long narrow stretch of emergent wetland that drains into Stream 8. The emergent component is dominated by swamp smartweed, Pennsylvania smartweed, and buckwheat vine. There is also a scrub-shrub component in the southwestern part of the wetland. This wetland is located in the median of the I-30 and I-40 interchange.

Wetland 14 also contains an emergent component that is dominated by swamp smartweed, soft rush, and broad-leaf cat-tail. Where the water level had recently dropped, extensive areas are covered with still-green duckweeds (*Lemna spp.*) that were stranded.

Wetland 15 also contains an emergent component that is dominated by water-pepper, alligator weed, and floating primrose willow.

Wetland 17 also contains emergent components that are dominated by horned beaksedge, water-pepper, and cat-tail sedge. Beneath the interstate overpass, these species grow in permanent standing water. As no seedlings or saplings of woody species were evident, this wetland is likely inundated for most, if not all, of the growing season. To the north of the overpass, there is a portion of the emergent wetland with a slightly higher elevation that is regularly mowed/maintained. The emergent wetland continues to the north of the disturbed maintained area east of I-30. Another portion of emergent wetland is located underneath the I-440 east bound underpass.

Wetland 20 also contains an emergent component that is dominated by broad-leaf cat-tail and is located underneath the eastbound flyover onramp from I-30 to I-440.

Portions of Wetland 3, Wetland 4, Wetland 5, Wetland 14, Wetland 15, and Wetland 17, are within the mowed/maintained road ROW. These wetlands are highly disturbed and are rutted from tractor mowing. The boundaries of these wetlands are defined by the transition to stable fill material at the toe of the right-of-way slope. The portion of Wetland 20 that is within the ROW is unique among these wetlands as it originates at a groundwater seep on a slope within the ROW.

#### 4.3.4 Riverine Lower Perennial Unconsolidated Shore Vegetated (R2UB)

Two riverine wetlands (Wetland 12 and Wetland 13) were identified along the south shore of the Arkansas River. These wetlands, which are separated by a berm, have formed in backwater areas of the Arkansas River Channel. Most years, these areas remain inundated throughout the year. A portion of these wetlands lack vegetation where rip-rap was placed at the toe of the steep rise to the terraces above the river. A portion of these wetlands within the right-of-way are vegetated along the shore where riprap is lacking. Both wetlands extend beyond the study area along the river. Wetland 12 is hydrologically connected to the Arkansas River to the north of the study area. Wetland 13 is part of the Clinton Center Wetlands.

#### 4.4 Streams

Most of the natural stream systems in the study area have been significantly altered; almost all the streams in the northern portion of the study area have been channelized. A total of 15 streams were identified within the study area (Table 2). These streams have ephemeral, intermittent, or perennial channels, or a combination of channel types. Most stream channels in the study area have been excavated and straightened for roadway construction and/or stormwater conveyance. Most of these systems are narrow (5 to 10 feet wide) and cross I-30, I-40, I-630, Hwy. 67, and/or frontage roads via culverts. All but three of the streams that are identified on USGS 7.5-minute topographic quadrangle maps have been diverted from their original flow paths. Stream 1 maintains a portion of its natural characteristics. Stream 2, Stream 10 (Arkansas River), and Stream 15 (Forche Creek) maintain their natural features within the study area.



340 Representative photographs of streams are provided after each map on which a stream  
341 is identified.

## 342 5.0 CONCLUSION

343 A total of 66.01 acres of wetlands and 16,631 linear feet of streams were identified  
344 within the study area. Design is still preliminary; therefore, potential project impacts to  
345 these systems are not presented at this time. Avoidance and minimization efforts will be  
346 employed throughout the design process and impact calculations will be completed prior  
347 to the completion of the Section 404 permit application.

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**TABLE 1. WETLAND SUMMARY**

Wetland ID	Wetland Type <sup>1,2</sup>	PFO Acreage within Study Area	PSS Acreage within Study Area	PEM Acreage within Study Area	Riverine Acreage within Study Area	Maintained Acreage within Study Area	Total Acreage within Study Area
1	PFO	0.13	None	None	None	None	0.13
2	PFO	2.24	None	None	None	None	2.24
3	PFO, PEM	3.49	None	None	None	0.37	3.86
4	PFO, PSS, PEM	10.34	0.16	0.89	None	1.77	13.16
5	PFO, PEM	3.19	None	0.11	None	0.06	3.36
6	PSS	None	0.21	None	None	None	0.21
7	PFO, PEM	2.70	None	0.08	None	None	2.78
8	PFO	0.39	None	None	None	None	0.39
9	PFO	0.31	None	None	None	None	0.31
10	PEM	None	0.18	0.33	None	None	0.51
11	PFO, PSS	3.31	0.01	None	None	None	3.32
12	Riverine	None	None	None	1.21	None	1.21
13	Riverine	None	None	None	0.23	None	0.23
14	PFO, PSS, PEM	0.83	0.09	0.06	None	0.64	1.62
15	PFO, PSS, PEM	0.11	0.10	0.62	None	0.94	1.77
16	PFO, PEM	1.23	None	None	None	None	1.23
17	PFO, PEM	18.93	None	1.29	None	6.78	27.00
18	PFO	0.28	None	None	None	None	0.28
19	PFO, PEM	0.84	None	None	None	None	0.84
20	PFO, PEM	1.44	None	None	None	0.12	1.56
TOTALS:		49.76	0.75	3.38	1.44	10.68	66.01

<sup>1</sup>Emergent (PEM), Scrub-Shrub (PSS), Forested (PFO)<sup>2</sup>See data sheets for descriptions of wetland sub classes

**TABLE 2. STREAM SUMMARY**

Stream ID	Stream Type <sup>1</sup>	Latitude	Longitude	OHWL Elevation (msl)	Length within Study Area (linear feet)	Culverted Length within Study Area (linear feet)
Stream 1	I	34.777802	-92.229386	250	2,955.46	3 sections totaling 404.07
Stream 2	E	34.777458	-92.233873	249	409.96	155.34
Stream 3	P	34.777618	-92.238922	258	748.49	2 sections totaling 302.44
Stream 4	I	34.463449	-92.143791	257	500.92	85.10
Stream 5	P	34.775985	-92.259634	233	1,771.08	3 sections totaling 502.12
Stream 6	I	34.777837	-92.252343	245	514.25	482.33
Stream 7	I	34.778125	-92.257781	256	1,896.02	4 sections totaling 790.69
Stream 8	I,E	34.777454	-92.261833	264	2,314.91	3 sections totaling 597.36
Stream 9	P	34.776526	-92.262167	251	80.23	None
Stream 10 (Arkansas River)	P	34.749981	-92.262280	238	1,310.73	None
Stream 11	I	34.729408	-92.264618	269	737.62	662.01 <sup>2</sup>
Stream 12	E	34.724793	-92.265745	263	496.37	402.97 <sup>3</sup>
Stream 13	I	34.711248	-92.269338	255	1,971.28	None
Stream 14	P	34.710660	-92.269622	262	89.14	None
Stream 15	P	34.710228	-92.265511	235	834.26	None
<b>TOTALS:</b>					16,630.72	4,384.43

<sup>1</sup> Perennial (P), Intermittent (I), Ephemeral (E)

<sup>2</sup> 75.61-Linear Foot open concrete channel, remainder of channel within and immediately beyond the study area is already culverted

<sup>3</sup> 93.40-Linear Foot open concrete channel, remainder of channel within and immediately beyond the study area is already culverted

OHWL – Ordinary High Water Mark

msl – mean sea level

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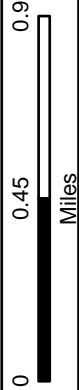
U.S. Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.





Sources(s): AHTD, Pulaski County, PAGIS, ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swissstopo, and the GIS User Community. (2012)



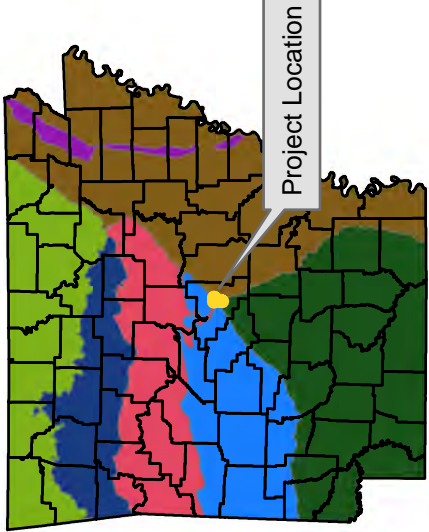
**Legend**

Project Limits

Notes:  
Arkansas Valley - USACE Central and Eastern  
Mountains Subregion (LRRN) of the Eastern  
Mountains and Piedmont Region  
Coastal Plain - USACE Inner Coastal Plain  
Subregion (LRRP) of the Atlantic and Gulf  
Coastal Plain Region  
Delta - USACE Mississippi Alluvial Valley  
Subregion (LRRO) of the Atlantic and Gulf  
Coastal Plain Region

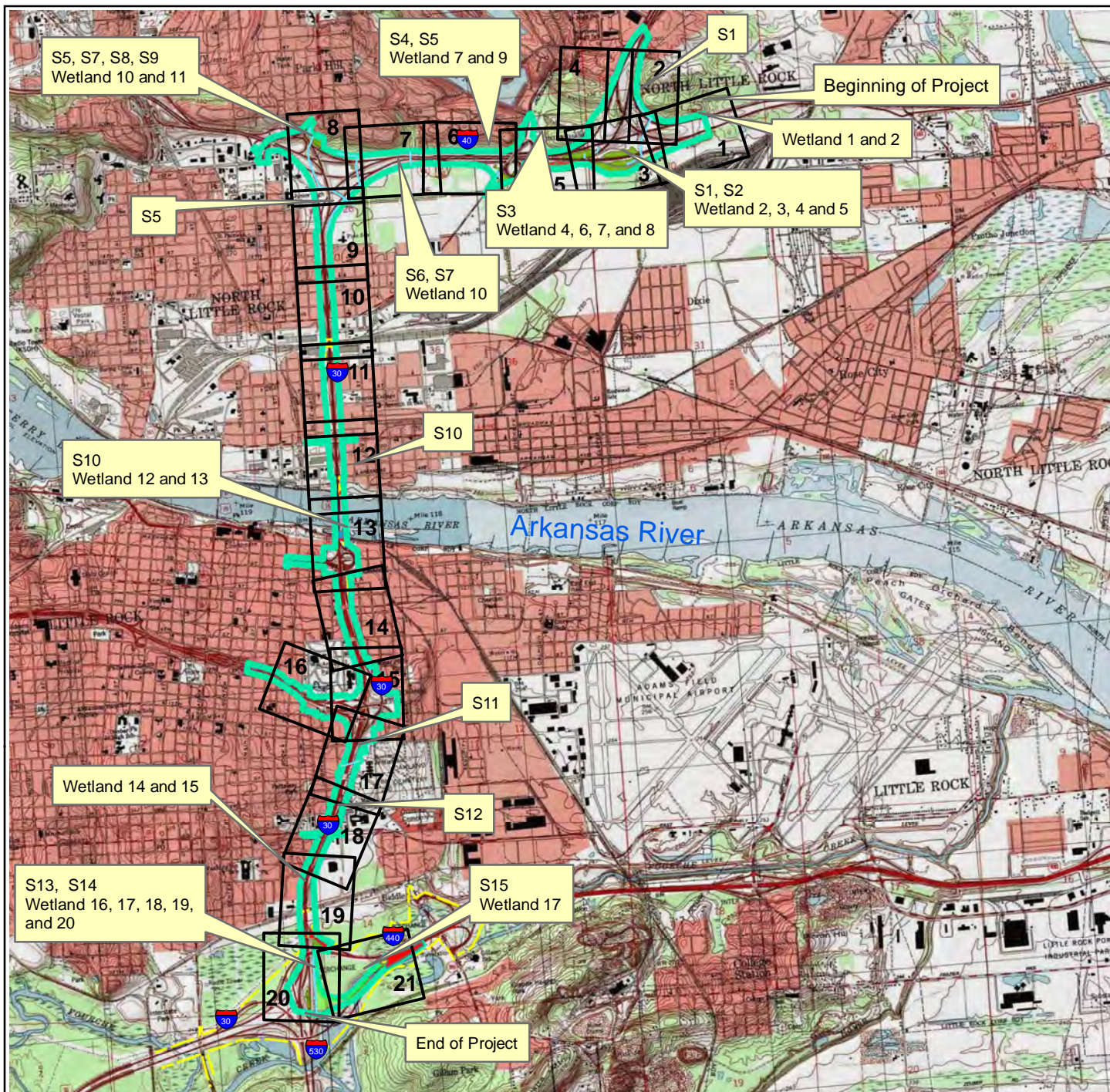
**PROJECT LOCATION MAP**

Figure 1  
I-30 from I-530 to Hwy. 67  
30 Crossing  
CA0602  
Pulaski County, Arkansas









Source(s): Copyright 2013  
National Geographic Society, i-cubed



#### LEGEND

- |                    |             |
|--------------------|-------------|
| Streams            | Wetlands    |
| Proposed ROW       | Maintained  |
| Existing ROW       | Emergent    |
| Wetland Study Area | Forested    |
|                    | Riverine    |
|                    | Scrub-shrub |



#### Map Legend (USGS Overview)

Figure 2

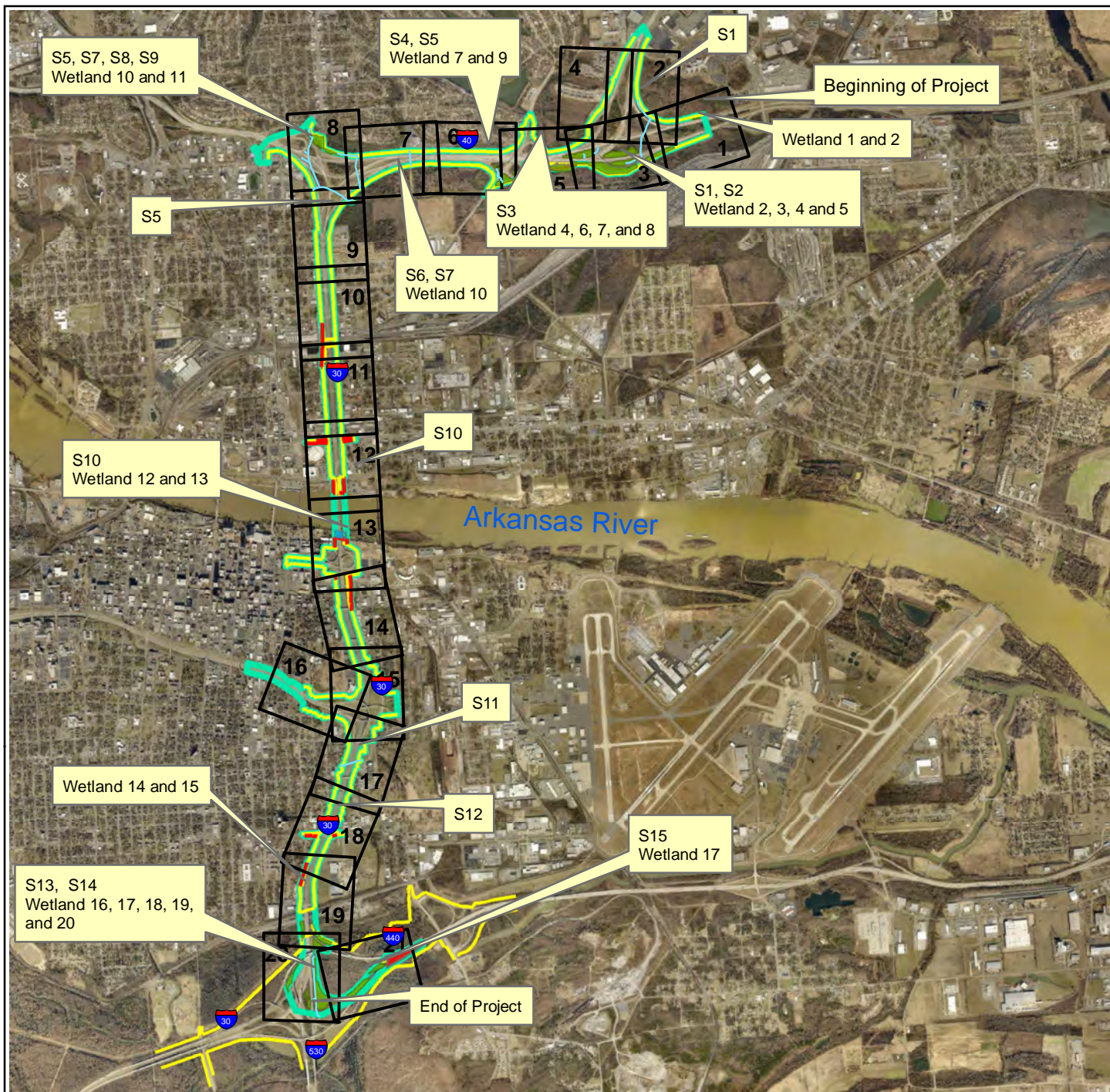
I-30 from I-530 to Hwy. 67

Stream and Wetlands Report

Pulaski County, Arkansas







Source(s): ESRI Base Map Credits - ESRI, DigitalGlobe, EarthEye, EarthStar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, swisstopo, and the GIS User Community



#### LEGEND

- |                         |                 |
|-------------------------|-----------------|
| — Streams               | <b>Wetlands</b> |
| ■ Affitlonal Forested   | ■ Maintained    |
| ■ Additional Maintained | ■ Emergent      |
| ■ Additional Emergent   | ■ Forested      |
| — Proposed Row          | ■ Riverine      |
| — Existing Row          | ■ Scrub-shrub   |
| — Wetland Study Area    |                 |



#### Map Legend (Aerial Overview)

Figure 3

I-30 from I-530 to Hwy. 67

Stream and Wetlands Report

Pulaski County, Arkansas







Source(s): Field collected GPS data

ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



0 250 500 1,000  
Feet



#### LEGEND

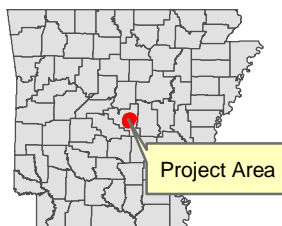
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

Map 1 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas







Wetland 1 Data point 1W.



Wetland 1 Data point 1-2W. View to the east.



Wetland 1 Data point 1-2W. View is to the north.



Wetland 1 Data point 1U. View is to the northeast.



Wetland 1 Data point 1-2U. View is to the north.



Wetland 2 Data point 2W. View is to the east.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 2 Data point 2W. View is to the north.



Wetland 2 Data point 2U. View is to the east.





# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-22-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 1W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.7794476 Long: -92.22336299 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Linker-Mountainburg association, moderately steep NWI classification: PFO1J

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry.			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>	
<b>Field Observations:</b>			
Surface Water Present?	Yes _____ No <u>X</u> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____	
Water Table Present?	Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? (includes capillary fringe)	Yes _____ No <u>X</u> Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Isolated depression, no inflow other than precipitation and no outflow.			

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 1W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Diospyros virginiana</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
<b>Shrub Stratum (Plot size: <u>10m</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Morella cerifera</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum (Plot size: <u>5m</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Cyperus odoratus</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3. <u>Carex comosa</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>82</u> = Total Cover 50% of total cover: <u>41</u> 20% of total cover: <u>16.4</u>				
<b>Woody Vine Stratum (Plot size: <u>10m</u> )</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Thyrsanthella difformis</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 1W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	2.5 Y 4/2	80	7.5 YR 4/6	20	C	M	Sandy loam	prominent redox
4	Restrictive layer						Hardpan	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

**Restrictive Layer (if observed):**

Type: Hardpan

Depth (inches): 4

Hydric Soil Present? Yes ☒ No ☐

## Remarks:

Soils do not match mapped type due to construction of roadway, but are now normal conditions for the site.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 1-2W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.779396 Long: -92.224073 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Linker-Mountainburg association, moderately steep NWI classification: PFO1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
Primary Indicators (minimum of one is required; check all that apply)		
<u>X</u> Surface Water (A1)	_____ Aquatic Fauna (B13)	_____ Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	_____ Marl Deposits (B15) <b>(LRR U)</b>	_____ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	_____ Hydrogen Sulfide Odor (C1)	_____ Drainage Patterns (B10)
_____ Water Marks (B1)	_____ Oxidized Rhizospheres along Living Roots (C3)	_____ Moss Trim Lines (B16)
_____ Sediment Deposits (B2)	_____ Presence of Reduced Iron (C4)	_____ Dry-Season Water Table (C2)
_____ Drift Deposits (B3)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Crayfish Burrows (C8)
_____ Algal Mat or Crust (B4)	_____ Thin Muck Surface (C7)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Iron Deposits (B5)	_____ Other (Explain in Remarks)	_____ Geomorphic Position (D2)
_____ Inundation Visible on Aerial Imagery (B7)		_____ Shallow Aquitard (D3)
_____ Water-Stained Leaves (B9)		_____ FAC-Neutral Test (D5)
		_____ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present?	Yes <u>X</u> No _____ Depth (inches): <u>&lt; 1</u>	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present?	Yes <u>X</u> No _____ Depth (inches): <u>2</u>	
Saturation Present? (includes capillary fringe)	Yes <u>X</u> No _____ Depth (inches): <u>0</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 1-2W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Shrub Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Smilax bona-nox</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1.0</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 1-2W**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 2								organic
2 to 7	10 YR 4/2	95	10 YR 5/8	5	C	M	silty loam	prominent redox
7	restrictive layer							gravel/roadside fill

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR O</b> )
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR S</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR O</b> )	<input type="checkbox"/> Reduced Vertic (F18) ( <b>outside MLRA 150A,B</b> )
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>LRR P, S, T</b> )
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) ( <b>LRR P, T, U</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> ( <b>MLRA 153B</b> )
<input type="checkbox"/> 5 cm Mucky Mineral (A7) ( <b>LRR P, T, U</b> )	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) ( <b>LRR U</b> )	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR P, T</b> )	<input type="checkbox"/> Marl (F10) ( <b>LRR U</b> )	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR O, P, T</b> )	
<input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 150A</b> )	<input type="checkbox"/> Umbric Surface (F13) ( <b>LRR P, T, U</b> )	
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR O, S</b> )	<input type="checkbox"/> Delta Ochric (F17) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) ( <b>MLRA 150A, 150B</b> )	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149A</b> )	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) ( <b>MLRA 149A, 153C, 153D</b> )	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR P, S, T, U</b> )		

**Restrictive Layer (if observed):**Type: gravel/roadside fillDepth (inches): 7Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-09-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 1U  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.77944777 Long: -92.22329851 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Linker-Mountain association, moderately steep NWI classification: NA - Upland point  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes NO No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks:  The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Aquatic Fauna (B13) ___ High Water Table (A2) ___ Marl Deposits (B15) ( <b>LRR U</b> ) ___ Saturation (A3) ___ Hydrogen Sulfide Odor (C1) ___ Water Marks (B1) ___ Oxidized Rhizospheres along Living Roots (C3) ___ Sediment Deposits (B2) ___ Presence of Reduced Iron (C4) ___ Drift Deposits (B3) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Algal Mat or Crust (B4) ___ Thin Muck Surface (C7) ___ Iron Deposits (B5) ___ Other (Explain in Remarks) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: No wetland hydrology indicators were noted.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 1U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>12</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>41.7</u> (A/B)
2. <u>Quercus falcata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Juniperus virginiana</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Fraxinus americana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Ulmus alata</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Juniperus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
<u>25</u> = Total Cover 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>   </u> 1 - Rapid Test for Hydrophytic Vegetation <u>   </u> 2 - Dominance Test is >50% <u>   </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>   </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Morella cerifera</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Cyperus odoratus</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3. <u>Carex comosa</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>52</u> = Total Cover 50% of total cover: <u>26</u> 20% of total cover: <u>10.4</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Smilax auriculata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
Remarks: (If observed, list morphological adaptations below).				



## SOIL

Sampling Point: DP 1U**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	2.5 Y 4/4	100					Sandy loam	
4	Restrictive layer						<u>hardpan</u>	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: hardpanDepth (inches): 4Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

Soils do not match mapped type due to construction of roadway, but are now normal conditions for the site. No hydric soil indicators were noted.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 1-2U  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.779413 Long: -92.22422 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Linker-Mountainburg association, moderately steep NWI classification: NA-Upland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No signs of hydrology observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 1-2U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus falcata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				
Herb Stratum (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Smilax rotundifolia</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below). <b>Hydrophytes equal 50% not greater than 50%</b>				

## SOIL

Sampling Point: DP 1-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10 YR 3/1	100					clay loam	
6	restrictive layer						Fill	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: Roadside fillDepth (inches): 6Hydric Soil Present? Yes ☐ No ☒

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-10-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 2W  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.463838 Long: -92.133531 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:  The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No _____ Depth (inches): <u>X</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>4</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 2W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Fraxinus pennsylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Lonicera japonica</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 2W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10 YR 3/2	85	7.5 YR 4/4	15	C	M	Clay Loam	distinct redox
6 to 12	10 YR 2/1	80	7.5 YR 4/4	20	C	M	Clay Loam	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 2U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Roadside Local relief (concave, convex, none): Convex Slope (%): 20  
 Subregion (LRR or MLRA): LRRO Lat: 34.777339 Long: -92.226571 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No sign of hydrology except for adjacent roadside ditch.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 2U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carya ovata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1.0</u>				
Herb Stratum (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Rubus argutus</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below). <b>Hydrophytes equal 50% not more than 50%</b>				

## SOIL

Sampling Point: DP 2U

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

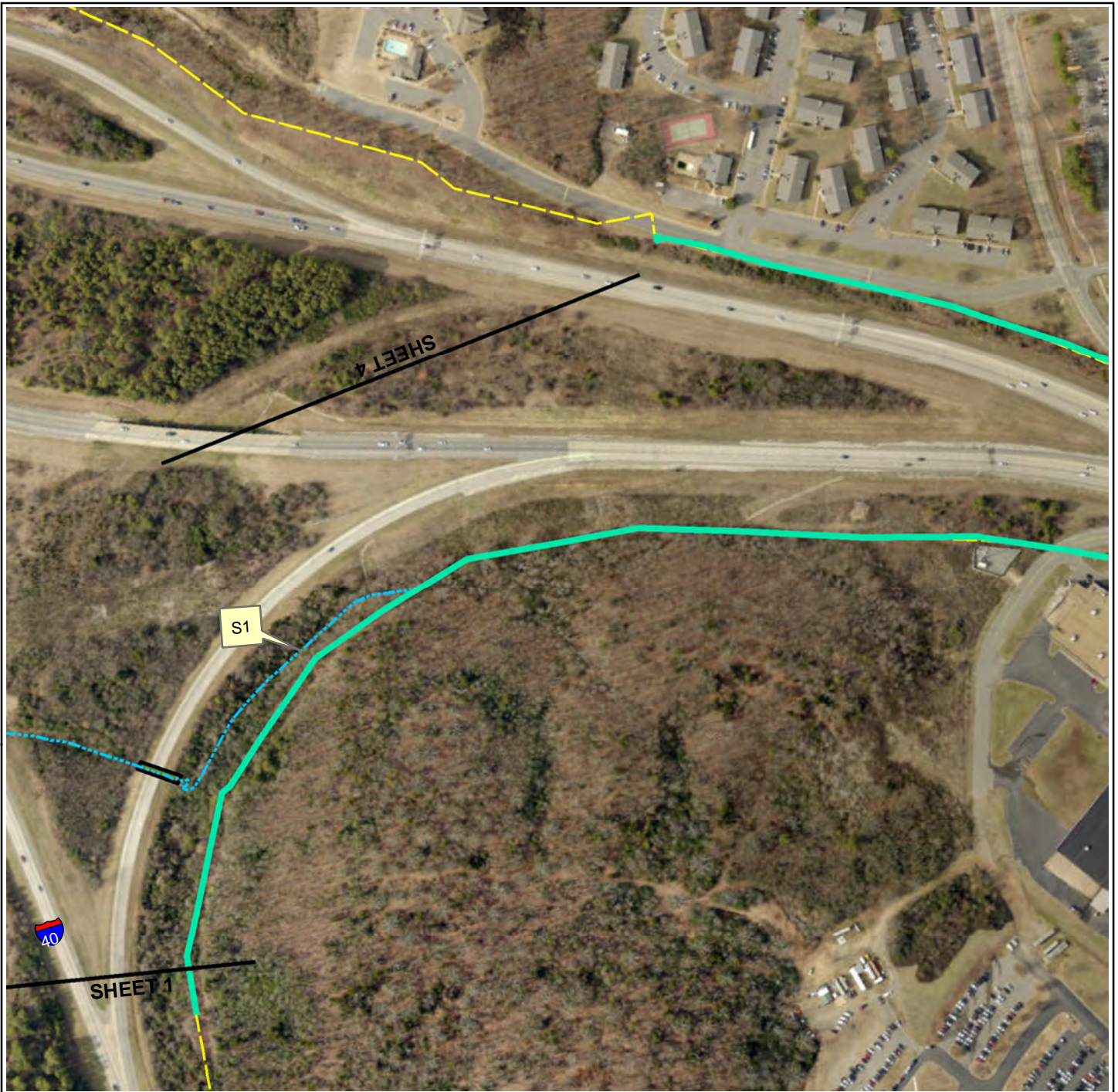
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 2	10 YR 3/3	100					loam	
2 to 5	7.5 YR 5/6	100					clay loam	
5	restrictive layer							gravel/roadside fill

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

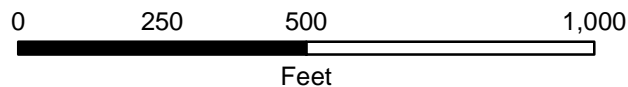
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: gravel/roadside fillDepth (inches): 5Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

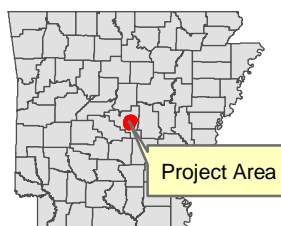


Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>● Upland Data Point</li> <li>● Wetland Data Point</li> </ul> <p><b>Streams</b></p> <ul style="list-style-type: none"> <li>— Ephemeral</li> <li>— Intermittent</li> <li>— Perennial</li> </ul> | <p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>■ Maintained</li> <li>■ Emergent</li> <li>■ Forested</li> <li>■ Riverine</li> <li>■ Scrub-shrub</li> <li>■ Wetland Study Area</li> <li>■ Proposed ROW</li> <li>■ Existing ROW</li> <li>■ Culverts</li> </ul> |
|--|--|



#### Stream and Wetlands Report

Map 2 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas





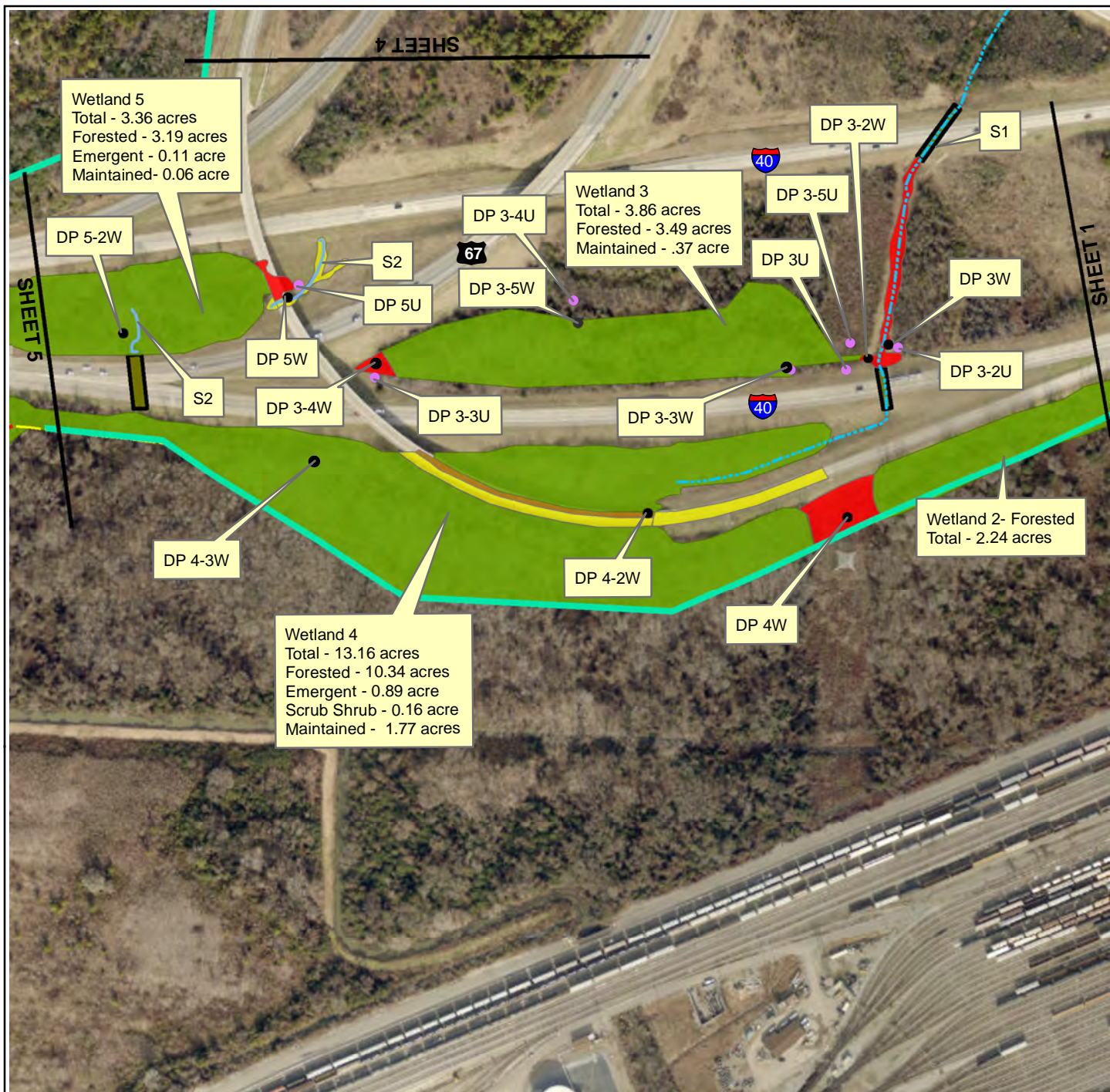


Stream 1 looking downstream at culvert beneath Highway 167 ramp.



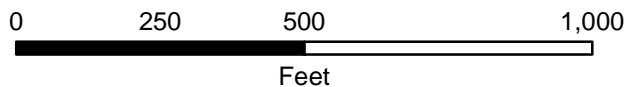
Stream 1 looking downstream.





Source(s): Field collected GPS data

ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

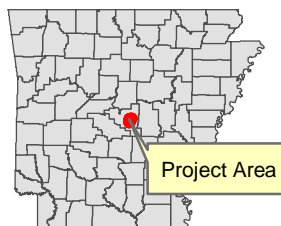
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

Map 3 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas







Wetland 3 Data point 3W. View is to the north.



Wetland 3 Data point 3W. View is to the south.



Wetland 3 Data point 3-2W. View is to the east.



Wetland 3 Data point 3-3W. View is to the west.



Wetland 3 Data point 3-3W. View is to the north.



Wetland 3 Data point 3-4W. View is to the west.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 3 Data point 3-5W. View is to the east.



Wetland 3 Data point 3U. View is to the north.



Wetland 3 Data point 3-2U. View is to the west.



Wetland 3 Data point 3-3U. View is to the west.



Wetland 3 Data point 3-4U. View is to the east.



Wetland 3 Data point 3-5U. View is to the north.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 4 Data point 4W. View is to the southwest.



Wetland 4 Data point 4-2W. View is to the northwest.



Wetland 4 Data point 4-3W. View is to the east.



Wetland 5 Data point 5U. View is to the north.



Wetland 5 Data point 5W. View is to the southwest.



Wetland 5 Data point 5-2W.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Stream 1 At culvert beneath I-40 EB.



Stream 1 Typical reach with surrounding wetland 3.



Stream 1 Looking downstream between I-40 EB and I-40 WB lanes.



Stream 2 Reformed channel in PFO looking downstream at culvert.



Stream 2 In PFO looking upstream at origin of reformed channel.



Stream 2 Typical channel through wetland 7 PEM.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.





# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-23-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 3W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77718845 Long: -92.22945582 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PSS1J - PEM1J

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Photo taken 12-10-15 Precipitation below normal immediately prior to delineation, soils extremely dry.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input checked="" type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Riparian shrubby emergent wetland.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 3W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 <sup>1</sup> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Cephalanthus occidentalis</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Carex crinita</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Panicum virgatum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Persicaria hydropiper</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5. <u>Carex comosa</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
_____ = Total Cover				
50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: DP 3W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10 YR 5/4	80	7.5 YR 5/8	20	C	PL	sandy loam	
4 to 12	10 YR 4/2	75	5 YR 5/8	25	C	PL	sandy loam	prominent redox
12	restrictive layer						Fill or bedrock	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils<sup>3</sup>:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):

Type: fill or bedrock

Depth (inches): 12

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Wetland is mapped as Linker-Mountainburg Association, moderately steep. Soils at sample point are not typical of mapped soil type due to the historical disturbance associated with interstate construction. Slope is nearly level throughout. Conditions are now normal for the site, therefore site is not considered to be significantly disturbed.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-23-15  
 Applicant/Owner: AHTD State: AR Sampling Point: D P 3 - 2 W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77709644 Long: -92.22960808 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PSS1J

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Photo taken 12-10-15	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u>		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP3-2W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Cephalanthus occidentalis</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover				
50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Carex lurida</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
2. <u>Carex crinita</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. <u>Persicaria pensylvanica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Persicaria hydropiper</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. <u>Juncus effusus</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
6. <u>Panicum virgatum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>90</u> = Total Cover				
50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below). <b>Cephalanthus occidentalis not in photo area was recently mowed.</b>				

## SOIL

Sampling Point: DP 3-2W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 2	10 YR 4/2	90	10 YR 6/6	10	C	M	Clay loam	prominent redox
2 to 12	10 YR 4/1	80	7.5 YR 4/8	20	C	M	loamy clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)
- ☐ Polyvalue 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 (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:**

Wetland is mapped as Linker-Mountainburg Association, moderately steep. Soils at sample point are not typical of mapped soil type due to the historical disturbance associated with interstate construction. Slope is nearly level throughout. Conditions are now normal for the site, therefore site is not considered to be significantly disturbed.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 3-3W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.777053 Long: -92.230213 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PFO1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<u>X</u> Surface Water (A1)	_____ Aquatic Fauna (B13)	_____ Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	_____ Marl Deposits (B15) <b>(LRR U)</b>	_____ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	_____ Hydrogen Sulfide Odor (C1)	_____ Drainage Patterns (B10)
_____ Water Marks (B1)	_____ Oxidized Rhizospheres along Living Roots (C3)	_____ Moss Trim Lines (B16)
_____ Sediment Deposits (B2)	_____ Presence of Reduced Iron (C4)	_____ Dry-Season Water Table (C2)
<u>X</u> Drift Deposits (B3)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Crayfish Burrows (C8)
_____ Algal Mat or Crust (B4)	_____ Thin Muck Surface (C7)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Iron Deposits (B5)	_____ Other (Explain in Remarks)	_____ Geomorphic Position (D2)
_____ Inundation Visible on Aerial Imagery (B7)		_____ Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)		_____ FAC-Neutral Test (D5)
		_____ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present?	Yes <u>X</u> No _____ Depth (inches): <u>3-10</u>	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present?	Yes <u>X</u> No _____ Depth (inches): <u>3</u>	
Saturation Present? (includes capillary fringe)	Yes <u>X</u> No _____ Depth (inches): <u>surface</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 3-3W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>70</u> = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Carpinus caroliniana</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
<b>Herb Stratum</b> (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				



## SOIL

Sampling Point: DP 3-3W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 8	10 YR 3/2	80	10 Y/R 5/6	20	C	M	loamy clay	prominent redox
8	restrictive layer							roadfill

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

**Restrictive Layer (if observed):**

Type: roadfill

Depth (inches): 8

Hydric Soil Present? Yes ☒ No ☐

## Remarks:

Data point on toe of slope of roadway fill.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 3-4W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.777042 Long: -92.233304 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>X High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>X Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes <u>X</u> No _____
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 3-4W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				
1. <u>Juncus effusus</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Dichondra carolinensis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Paspalum notatum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	120 = Total Cover 50% of total cover: <u>60</u> 20% of total cover: <u>24</u>
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	120 = Total Cover 50% of total cover: <u>60</u> 20% of total cover: <u>24</u>
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	120 = Total Cover 50% of total cover: _____ 20% of total cover: _____
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				
Grass recently mowed.				

## SOIL

Sampling Point: DP 3-4W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	10 YR 3/2	75	7.5YR 5/8	25	C	M		prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

<sup>3</sup>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:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 3-5W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.777306 Long: -92.231782 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PFO1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>X High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>X Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>X Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes <u>X</u> No _____
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Shallow pools near by.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 3-5W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Fraxinus pennsylvanica</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>65</u> = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Shrub Stratum (Plot size: <u>none</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Herb Stratum (Plot size: <u>none</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>5m</u> )</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Smilax rotundifolia</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: Dp 3-5W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10 YR 3/1	100					loamy	
3 to 10	10 YR 2/1	100					loamy mucky	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-10-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 3U  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.777058 Long: -92.229742 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Area has been historically disturbed for construction of the interstate, but conditions are now considered normal for this site. Sample plot is on west side of stream where emergent wetland extends from streamside. Emergent vegetation in west side wetland was different than that in the east side wetland. Upland sample plot is in fill material on roadside slope. The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 3U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Solidago altissima</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Symphyotrichum ericoides</u>	<u>15</u>	<u>N</u>	<u>UPL</u>	
3. <u>Amphicarpaea bracteata</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>60</u> 20% of total cover: <u>24</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				
<b>Hydrophytes equal 50% not greater than 50%</b>				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation

\_\_\_ 2 - Dominance Test is >50%

\_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP 3U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10 YR 3/3	100					loam	
6	restrictive layer						rock/gravel	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

**Restrictive Layer (if observed):**Type: rock/gravel - fill materialDepth (inches): 6Hydric Soil Present? Yes ☐ No ☒

Remarks:

Slope is nearly level at sample point.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-10-15  
 Applicant/Owner: AHTD State: AR Sampling Point: D P 3 - 2 U  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77718781 Long: -92.22944018 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Area has been historically disturbed for construction of the interstate, but conditions are now considered normal for this site. Sample plot is on west side of stream where emergent wetland extends from streamside. Emergent vegetation in west side wetland was different than that in the east side wetland. Upland sample plot is in fill material on roadside slope. The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 3-2U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Solidago altissima</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Symphyotrichum ericoides</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
3. <u>Rubus argutus</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
4. <u>Daucus carota</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
5. <u>Dichanthelium clandestinum</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below). <b>Vegetation recently mowed. Dominance test is equal to 50% not greater than 50%</b>				



## SOIL

Sampling Point: DP 3-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10 YR 3/3	100					loam	no redox features
5 to 11	10 YR 3/3	100					clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>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:

Slope is nearly level at sample point.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 3-3U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77696 Long: 92.233313 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: NA - upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No signs of hydrology observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 3-3U

Tree Stratum (Plot size: <u>5m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juniperus virginiana</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Dichondra carolinensis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Solidago altissima</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. <u>Paspalum notatum</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>120</u> = Total Cover 50% of total cover: <u>60</u> 20% of total cover: <u>30</u>				
Woody Vine Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Rubus argutus</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below). <b>Hydrophytes equal 50% not greater than 50%</b>				

**SOIL**

Sampling Point: DP 3-3U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10 YR 4/4	100					clay loam	
6	restrictive layer							roadside fill

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Histosol (A1)<br><input type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Black Histic (A3)<br><input type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Stratified Layers (A5)<br><input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b><br><input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b><br><input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b><br><input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b><br><input type="checkbox"/> Depleted Below Dark Surface (A11)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b><br><input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b><br><input type="checkbox"/> Sandy Gleyed Matrix (S4)<br><input type="checkbox"/> Sandy Redox (S5)<br><input type="checkbox"/> Stripped Matrix (S6)<br><input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b> | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b><br><input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b><br><input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b><br><input type="checkbox"/> Loamy Gleyed Matrix (F2)<br><input type="checkbox"/> Depleted Matrix (F3)<br><input type="checkbox"/> Redox Dark Surface (F6)<br><input type="checkbox"/> Depleted Dark Surface (F7)<br><input type="checkbox"/> Redox Depressions (F8)<br><input type="checkbox"/> Marl (F10) <b>(LRR U)</b><br><input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b><br><input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b><br><input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b><br><input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b><br><input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b><br><input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b><br><input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> | <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b><br><input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b><br><input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b><br><input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b><br><input type="checkbox"/> Anomalous Bright Loamy Soils (F20)<br><b>(MLRA 153B)</b><br><input type="checkbox"/> Red Parent Material (TF2)<br><input type="checkbox"/> Very Shallow Dark Surface (TF12)<br><input type="checkbox"/> Other (Explain in Remarks) |
|---|---|---|

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

**Restrictive Layer (if observed):**

Type: roadside fill  
 Depth (inches): 6

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 3-4U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 20  
 Subregion (LRR or MLRA): LRRO Lat: 34.777424 Long: -92.23182 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: NA - upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No signs of hydrology		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 3-4U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Cornus florida</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>40</u> = Total Cover 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Herb Stratum (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 3-4U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	10 YR 3/2	100					loamy clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>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 <sup>X</sup> \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 3-5U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.777206 Long: -92.229738 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 3-5U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Solidago altissima</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
Woody Vine Stratum (Plot size: <u>5m</u> )				
1. <u>Lonicera japonica</u>	<u>100</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rubus argutus</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>65</u> 20% of total cover: <u>26</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 3-5U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	10 YR 3/3	100					clay loam	
10	restrictive layer							gravel/roadside fill

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: gravel/roadside fillDepth (inches): 10Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-09-15  
Applicant/Owner: AHTD State: AR Sampling Point: DP 4W  
Investigator(s): R. Prager, C. Donisi Section, Township, Range: S30, T2N, R11W  
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
Subregion (LRR or MLRA): LRRO Lat: 34.77612543 Long: -92.22975850 Datum: NAD83\_UTM Z15N  
Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PSS1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>X Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>X Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____		
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>6"</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 4W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Solidago canadensis</u>	<u>75</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rubus argutus</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
3. <u>Dichanthelium clandestinum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Persicaria hydropiperoides</u>	<u>100</u>	<u>Y</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>97.5</u> 20% of total cover: <u>39</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
  
 Total Number of Dominant Species Across All Strata: 2 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species <u>100</u>	x 1 = <u>100</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>75</u>	x 4 = <u>300</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>195</u> (A)	<u>455</u> (B)

Prevalence Index = B/A = 2.33

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
 \_\_\_ 2 - Dominance Test is >50%  
☒ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

Remarks: (If observed, list morphological adaptations below).  
 Shrub/sapling strata mowed from ROW maintenance. Dominance = 50%  
 Solidago canadensis, Rubus argutus, and Dichanthelium clandestinum were observed to be dead vegetation due to sampling time frame.



**SOIL**

Sampling Point: DP 4W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10YR 3/2	85	7.5YR 5/8	15	C	M	loam	prominent redox
6 to 11	10YR 2/1	100					loamy clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-09-15  
 Applicant/Owner: AHTD State: AR Sampling Point: D P 4 - 2 W  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.7761675 Long: -92.2311381 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PSS1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:  The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0 to 5</u> Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 4 - 2W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>10m</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Shrub Stratum (Plot size: <u>10m</u> )				
1. <u>Cephalanthus occidentalis</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
Herb Stratum (Plot size: <u>5m</u> )				
1. <u>Saururus cernuus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 4 - 2W**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	2.5Y 3/2	95	10YR 6/6	5	C	M	clay loam	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-30-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 4-3W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.776442 Long: -92.233745 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PFO1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<u>X</u> Surface Water (A1)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	___ Marl Deposits (B15) <b>(LRR U)</b>	___ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Oxidized Rhizospheres along Living Roots (C3)	<u>X</u> Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present?	Yes <u>X</u> No _____ Depth (inches): <u>0 - 4</u>	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present?	Yes <u>X</u> No _____ Depth (inches): <u>0</u>	
Saturation Present? (includes capillary fringe)	Yes <u>X</u> No _____ Depth (inches): <u>surface</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

# VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: DP 4-3W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Ulmus rubra</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 4-3W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 1								organic duff
1 to 12	10 YR 4/2	80	10 YR 5/8	20	C	M		prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-24-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 5W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77743548 Long: -92.23396128 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:  Precipitation below normal immediately prior to delineation, soils extremely dry.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>Surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 5W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Salix nigra</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Rhynchospora corniculata</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3. <u>Juncus scirpoides</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Juncus acuminatus</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
5. <u>Carex lurida</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. <u>Cyperus strigosus</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
7. <u>Leersia hexandra</u>	<u>15</u>	<u>N</u>	<u>OBL</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: <u>43.5</u> 20% of total cover: <u>17.4</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 5W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10 YR 4/2	80	7.5 YR 5/6	20	C	M	Clay Loam	prominent redox
5	restrictive layer						bedrock	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

**Restrictive Layer (if observed):**

Type: bedrock

Depth (inches): 5

Hydric Soil Present? Yes ☒ No ☐

## Remarks:

There was exposed bedrock adjacent to the wetland near the UPL sample point.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-24-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 5-2W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77720569 Long: -92.2351907 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PF01B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>6</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 5-2W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Acer rubrum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>70</u> = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Acer rubrum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
<u>22</u> = Total Cover 50% of total cover: <u>11</u> 20% of total cover: <u>4.4</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Ligustrum sinense</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
<b>Herb Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____      20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Brunnichia ovata</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below).				



**SOIL**

Sampling Point: DP 5-2W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 2	10 Y/R 3/1	100					clay loam	
2 to 6	10 YR 4/2	80	7.5 YR 4/6	20	C	M	clay loam	prominent redox
6 to 12	2.5 Y 5/2	60	7.5 YR 6/6	40	C	M	sandy clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-24-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 5U  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77748838 Long: -92.2339163 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Linker-Mountainburg Association, moderately steep NWI classification: N/A - upland point  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed. There was a small but abrupt vertical topographic separation between the wetland and adjacent upland that appeared sufficient to result in altered hydrology.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 5U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Solidago altissima</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Paspalum notatum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Schedonorus pratensis</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 5U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10YR 3/4	100					loam	
4	restrictive layer						hardpan	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

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

**Restrictive Layer (if observed):**

Type: hardpan  
Depth (inches): 4

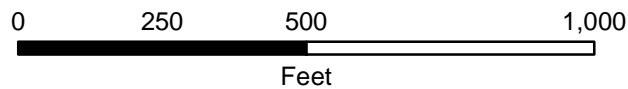
Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:



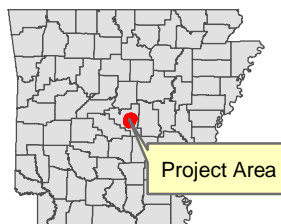


Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>● Upland Data Point</li> <li>● Wetland Data Point</li> </ul> <p><b>Streams</b></p> <ul style="list-style-type: none"> <li>— Ephemeral</li> <li>— Intermittent</li> <li>— Perennial</li> </ul> | <p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>■ Maintained</li> <li>■ Emergent</li> <li>■ Forested</li> <li>■ Riverine</li> <li>■ Scrub-shrub</li> <li>■ Wetland Study Area</li> <li>■ Proposed ROW</li> <li>■ Existing ROW</li> <li>■ Culverts</li> </ul> |
|--|--|



#### Stream and Wetlands Report

Map 4 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas













Wetland 4 Data point 4-4W. View to the north.



Wetland 4 Data point 4-5W. View to the southeast.



Wetland 4 Data point 4-6W. View to the northwest.



Wetland 4 Data point 4-6W. View to the northeast.



Wetland 4 Data point 4-7W. View is to the northwest.



Wetland 4 Data point 4-8W. View is to the south.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 4 Data point 4-9W. View is to the east.



Wetland 4 Data point 4U. View is to the east.



Wetland 6 Data point 6W. View is to the southwest.



Wetland 6 Data point 6U. View is to the north.



Wetland 6 Data point 6-2U. View is to the east.



Wetland 7 Data point 7W. View is to the east.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 7 Data point 7W. View is to the south.



Wetland 7 Data point 7-2W. View is to the northeast.



Wetland 7 Data point 7-2W. View is to the northeast.



Wetland 7 Data point 7-3W. View is to the south.



Wetland 7 Data point 7U. View is to the northeast.



Wetland 7 Data point 7U. View to the northwest.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.









Wetland 7 Data point 7-2U. View is to the south.



Wetland 8 Data point 8W. View is to the northwest.



Wetland 8 Data point 8W. View is to the west.



Wetland 8 Data point 8U. View is to the west.



Wetland 8 Data point 8-2U. View to the northeast.



Stream 3 north of I-40 looking downstream.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Stream 3 south of I-40 looking upstream.



Stream 3 south of I-40 looking downstream.



Stream 3 north of I-40 looking upstream.





# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-24-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 4-4W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.776680 Long: -92.236489 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input checked="" type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u>		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 4-4W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Persicaria hydropiper</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Persicaria pensylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Carex lurida</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. <u>Ambrosia trifida</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
6. <u>Dichanthelium clandestinum</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	
7. <u>Stachys tenuifolia</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>72.5</u> 20% of total cover: <u>29</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below). <b>Photo taken on 12-09-15. Not all vegetation listed above was present in winter. Also, the site was recently mowed.</b>				

**SOIL**

Sampling Point: DP 4-4W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	5N Gley	95	5YR 4/6	5	C	M	silty clay loam	
4 to 12	5 10BG Gley	95	5YR 4/6	5	C	M	silty clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-23-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 4-5W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77633179 Long: -92.23107653 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry in portions of the wetland. Under causeway PFO1 is replaced by PEM/PSS that is dominated by Cephalanthus and Saururus cernuus. Photo taken 12-09-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>X Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>X Drainage Patterns (B10)</u>
<u>X Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>X Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>X Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>X Crayfish Burrows (C8)</u>
<u>X Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes <u>X</u> No _____
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>6</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Stream flows into wetland, channel disappears as it converts to surface flow, wetland extends beneath causeway and beyond for substantial distance beyond project area.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 4-5W

Tree Stratum (Plot size: <u>30m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>30m</u> )				
1. <u>Salix nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Acer rubrum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				
<b>Shrub Stratum</b> (Plot size: <u>30m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Cephalanthus occidentalis</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>15m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Saururus cernuus</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 4-5W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	3 5GY gley	60	7.5 YR 5/6	40	C	M	Loamy clay	
6 to 8	3 10G gley	100					Loamy clay	
8 to 14	3 5GY gley	80	7.5 YR 4/6	20	C	M	Loamy clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>                 |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>                       |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)                               |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Depleted Matrix (F3)  |
| <input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>     | <input type="checkbox"/> Redox Dark Surface (F6)   |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b> | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>             | <input type="checkbox"/> Marl (F10) <b>(LRR U)</b>   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b> | <input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>   | <input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>                     |
| <input type="checkbox"/> Sandy Redox (S5)                             | <input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>                |
| <input type="checkbox"/> Stripped Matrix (S6)                         | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> |
| <input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-09-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 4-6W  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.7767106 Long: -92.23742096 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period. Area has been historically disturbed from interstate constructions, but conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 4-6W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rhus glabra</u>	<u>40</u>	<u>Y</u>	<u>NR</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover				
50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Rubus argutus</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Ambrosia artemisiifolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>45</u> = Total Cover				
50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Mikania scandens</u>	<u>80</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>80</u> = Total Cover				
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				
Remarks: (If observed, list morphological adaptations below).				



## SOIL

Sampling Point: DP4-6W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	5N Gley	95	5YR 4/6	5	C	M	silty clay loam	
4 to 12	5 10BG Gley	95	5YR 4/6	5	C	M	silty clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-24-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 4-7W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.7767304 Long: -92.23787199 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for this site. Photo taken 12-09-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>X Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>X Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes <u>X</u> No _____
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u> Depth (inches): _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 4-7W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				
1. <u>Persicaria hydropiper</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Persicaria pensylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Carex lurida</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. <u>Ambrosia trifida</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
6. <u>Dichanthelium clandestinum</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	
7. <u>Stachys tenuifolia</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>72.5</u> 20% of total cover: <u>29</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 4-7W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	5N Gley	95	5YR 4/6	5	C	M	silty clay loam	
4 to 12	5 10BG Gley	95	5YR 4/6	5	C	M	silty clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 4-8W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1  
 Subregion (LRR or MLRA): LRRO Lat: 34.77653 Long: -92.221776 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PFO1  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>X Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>X Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes <u>X</u> No _____
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 4-8W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Ulmus rubra</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Shrub Stratum (Plot size: <u>5m</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
<b>Herb Stratum (Plot size: <u>none</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>5m</u> )</b>				
1. <u>smilax bona-nox</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
Remarks: (If observed, list morphological adaptations below).				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

## SOIL

Sampling Point: DP 4-8W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10 YR 3/2	95	7.5 YR 5/8	5	C	M	silty loam	prominent redox
6 to 12	10 YR 3/2	80	7.5 YR 5/8	20	C	M	silty loam	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR O</b> )
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR S</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR O</b> )	<input type="checkbox"/> Reduced Vertic (F18) ( <b>outside MLRA 150A,B</b> )
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>LRR P, S, T</b> )
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) ( <b>LRR P, T, U</b> )	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) ( <b>LRR P, T, U</b> )	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) ( <b>LRR U</b> )	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR P, T</b> )	<input type="checkbox"/> Marl (F10) ( <b>LRR U</b> )	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR O, P, T</b> )	
<input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 150A</b> )	<input type="checkbox"/> Umbric Surface (F13) ( <b>LRR P, T, U</b> )	
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR O, S</b> )	<input type="checkbox"/> Delta Ochric (F17) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) ( <b>MLRA 150A, 150B</b> )	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149A</b> )	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) ( <b>MLRA 149A, 153C, 153D</b> )	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR P, S, T, U</b> )		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 4-9W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Concave Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.776789 Long: -92.237591 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present?	Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present?	Yes <u>X</u> No _____ Depth (inches): <u>7</u>	
Saturation Present? (includes capillary fringe)	Yes <u>X</u> No _____ Depth (inches): <u>surface</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 4-9W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
2. <u>Dichanthelium clandestinum</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. <u>Carex luridia</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Dichandra carolinensis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Smilax bona-nox</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below).				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
  
 Total Number of Dominant Species Across All Strata: 2 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
 \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ☒ No \_\_\_\_\_

## SOIL

Sampling Point: DP 4-9W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10 YR 3/1	100					loamy clay	no redox
4 to 12	10 YR 3/2	75	10 YR 6/6	25	C	M	loamy clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input checked="" type="checkbox"/> Redox Dark Surface (F6)                         |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

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

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-29-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 4U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S30, T2N, R11W  
 Landform (hillslope, terrace, etc.): Berm-Fill Local relief (concave, convex, none): convex Slope (%): 2-4  
 Subregion (LRR or MLRA): LRRO Lat: 34.776555 Long: -92.221956 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Two months prior to the site visit on January 29, 2016, precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for time of year. One week prior to site visit, 4.5 to 8 inches of snow fall occurred. Snow was melted before site visit.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present?	Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present?	Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <u>X</u> Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No signs of hydrology.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 4U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>100</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>100</u> = Total Cover				
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Herb Stratum (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Smilax bona-nox</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				
50% of total cover: <u>2.5</u> 20% of total cover: <u>1.0</u>				
Remarks: (If observed, list morphological adaptations below).				



## SOIL

Sampling Point: DP 4U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	10 YR 3/3	80	7.5 YR 4/6	20			clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-23-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 6W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77758265 Long: -92.23885327 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Leadville silt loam, 1 to 3 percent slopes NWI classification: PSS1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
Primary Indicators (minimum of one is required; check all that apply)		
<u>X</u> Surface Water (A1)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Marl Deposits (B15) <b>(LRR U)</b>	___ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
<u>X</u> Water Marks (B1)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes <u>X</u> No _____	Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present? Yes _____ No _____	Depth (inches): _____	
Saturation Present? Yes <u>X</u> No _____	Depth (inches): <u>surface</u> (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 6W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Salix nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Cephalanthus occidentalis</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Alternanthera philoxeroides</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Typha latifolia</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Persicaria pennsylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Mikania scandens</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Brunnichia ovata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 6W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10 YR 4/2	100					silt clay loam	
5 to 9	5N Gley	75	7.5 YR 5/8	25	C	M	clay loam	
9 to 16	7.5 YR 4/4	100					silty sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 7-23-15  
Applicant/Owner: AHTD State: AR Sampling Point: DP 6U  
Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
Subregion (LRR or MLRA): LRRO Lat: 34.77764801 Long: -92.2386728 Datum: NAD83\_UTM Z15N  
Soil Map Unit Name: Leadvale silt loam, 1 to 3 percent slopes NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area disturbed from interstate construction and other roadwork, but conditions are now normal for this site.	

## HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____		
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 6U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Solidago altissima</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Passiflora incarnata</u>	<u>15</u>	<u>Y</u>	<u>NR</u>	
3. <u>Sonchus asper</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
4. <u>Dichanthelium aciculare</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Campsis radicans</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Brunnichia ovata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				
Remarks: (If observed, list morphological adaptations below).				
Species categorized as NR are treated as UPL, per the Regional Supplement.				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
  
 Total Number of Dominant Species Across All Strata: 4 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

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

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
 \_\_\_ 2 - Dominance Test is >50%  
 \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

## SOIL

Sampling Point: DP 6U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10 YR 4/4	100					sandy loam	
5 to 6	2.5 Y 4/3	100					sand	
6	restrictive layer						hardpan	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

☐ 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)

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

**Restrictive Layer (if observed):**

Type: hardpan  
 Depth (inches): 6

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

No hydric soil indicators observed.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-30-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 6-2U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.778269 Long: -92.239399 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Leadvale silt loam, 1 to 3 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____		
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No signs of hydrology.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 6-2U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Lonicera japonica</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Smilax rotundifolia</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	
3. <u>Rubus idaeus</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>75</u> 20% of total cover: <u>30</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 6-2U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					<sup>2</sup> Location: PL=Pore Lining, M=Matrix.			
<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>					<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>			
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>			<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>			<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>			<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)		
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> <b>(MLRA 153B)</b>		
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>			<input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>			<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>					
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>			<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>					
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>			<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>					
<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>					
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>					
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>								
<b>Restrictive Layer (if observed):</b>								
Type: _____								
Depth (inches): _____						Hydric Soil Present? Yes _____ No _____		
Remarks: Soil sample not taken due to a busted sewer line near by. Soils presumed to be non-hydric.								

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 7W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.776979 Long: -92.241078 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PEM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Photos taken 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>8</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 7W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Cephalanthus occidentalis</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Persicaria hydropiperoides</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Toxicodendron radicans</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Brunnichia ovata</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	
3. <u>Rubus argutus</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Smilax bona-nox</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)  
  
 Total Number of Dominant Species Across All Strata: 4 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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

**Hydrophytic Vegetation Indicators:**  
   1 - Rapid Test for Hydrophytic Vegetation  
  X   2 - Dominance Test is >50%  
   3 - Prevalence Index is ≤3.0<sup>1</sup>  
   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

Remarks: (If observed, list morphological adaptations below).  
  
**While there are scattered shrubs, this wetland is more appropriately categorized as a PEM.**



## SOIL

Sampling Point: DP 7W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 12	10 YR 3/1	70	7.5 YR 5/6	30	C	M	clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 7-2W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77600859 Long: -92.24132483 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Photo take 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Aquatic Fauna (B13) ___ High Water Table (A2) ___ Marl Deposits (B15) <b>(LRR U)</b> <u>X</u> Saturation (A3) ___ Hydrogen Sulfide Odor (C1) ___ Water Marks (B1) ___ Oxidized Rhizospheres along Living Roots (C3) ___ Sediment Deposits (B2) ___ Presence of Reduced Iron (C4) <u>X</u> Drift Deposits (B3) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Algal Mat or Crust (B4) ___ Thin Muck Surface (C7) ___ Iron Deposits (B5) ___ Other (Explain in Remarks) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) <u>X</u> Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) <u>X</u> Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 7-2W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Acer saccharinum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Salix nigra</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Acer saccharinum</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>40</u> = Total Cover 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Brunnichia ovata</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 7-2W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 1								organic
1 to 12	10 YR 3/1	60	7.5 YR 5/6	40	C	M	clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-08-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 7-3W  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR or MLRA): LRRO Lat: 34.7758629 Long: -92.24268469 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input checked="" type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present?	Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present?	Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <u>X</u> No _____ Depth (inches): <u>4</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 7-3W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.7</u> (A/B)
2. <u>Acer saccharinum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Salix nigra</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1.0</u>				
<b>Shrub Stratum (Plot size: <u>none</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Herb Stratum (Plot size: <u>5m</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Melothria pendula</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
2. <u>Rubus argutus</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Phytolacca americana</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>70</u> = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				
<b>Woody Vine Stratum (Plot size: <u>10m</u> )</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Smilax bona-nox</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Ampelopsis arborea</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. <u>Brunnichia ovata</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>85</u> = Total Cover 50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 7-3W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 12	10 YR 3/1	60	7.5 YR 5/6	40	C	M	clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-09-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 7U  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S26, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.776816 Long: -92.239899 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: none, upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed. Area appears to have been a historical wetland, but no longer has hydrology sufficient to sustain wetland conditions - herbaceous layer is entirely FACU species.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 7U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharinum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>45</u> = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. <u>Juniperus virginiana</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
<u>40</u> = Total Cover 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Ligustrum sinense</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Solidago canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rubus allegheniensis</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				
1. <u>Lonicera japonica</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
Remarks: (If observed, list morphological adaptations below). <b>Hydrophytes are 50% of dominants, not more than 50%</b>				

## SOIL

Sampling Point: DP 7U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 12	10 YR 3/1	75	7.5 YR 5/6	25	C	M	clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil appears to be remnant from historical wetland prior to hydrological alteration.



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-30-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 7-2U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.777138 Long: 92.240414 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No signs of hydrology.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 7-2U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
<b>Herb Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
				_____ = Total Cover
50% of total cover: _____				20% of total cover: _____
<b>Woody Vine Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Rubus argutus</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Smilax bona-nox</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Lonicera japonica</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				<u>90</u> = Total Cover
50% of total cover: <u>45</u>				20% of total cover: <u>18</u>
Remarks: (If observed, list morphological adaptations below).				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
  
 Total Number of Dominant Species Across All Strata: 3 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

**Prevalence Index worksheet:**  

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

**Hydrophytic Vegetation Indicators:**  
   1 - Rapid Test for Hydrophytic Vegetation  
  X   2 - Dominance Test is >50%  
   3 - Prevalence Index is ≤3.0<sup>1</sup>  
   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?**      Yes   X        No \_\_\_\_\_

**SOIL**

Sampling Point: DP 7-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	7.5 YR 3/2	100					sandy loam	
4	restrictive layer							gravel/roadside fill

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

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

**Restrictive Layer (if observed):**

Type: 4  
Depth (inches): gravel/roadside fill

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 8W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77645114 Long: -92.24171209 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Photo taken 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 8W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Acer saccharinum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Ulmus americana</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Salix nigra</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>80</u> = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Acer saccharinum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
3. <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
<u>17</u> = Total Cover 50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
<b>Shrub Stratum (Plot size: <u>10m</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Cephalanthus occidentalis</u>	<u>2</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>4</u> = Total Cover 50% of total cover: <u>2</u> 20% of total cover: <u>0.8</u>				
<b>Herb Stratum (Plot size: <u>5m</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____      20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Gelsemium sempervirens</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Brunnichia ovata</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>7</u> = Total Cover 50% of total cover: <u>3.5</u> 20% of total cover: <u>1.4</u>				
Remarks: (If observed, list morphological adaptations below).				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____



## SOIL

Sampling Point: DP 8W

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0 to 6	10 YR 3/1	80	7.5 YR 4/6	20	C	M, PL	redox is prominent
6 to 12	10 YR 2/1	80	7.5 YR 4/6	20	C	M	redox is prominent

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 8U  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 5  
 Subregion (LRR or MLRA): LRRO Lat: 34.77647102 Long: -92.24258284 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site precipitation. Photo taken 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 8U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Cercis canadensis</u>	<u>35</u>	<u>Y</u>	<u>UPL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u>Triadica sebifera</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. <u>Acer saccharinum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Ulmus americana</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>55</u> = Total Cover 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = <u>Hydro</u>
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Cercis canadensis</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Triadica sebifera</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Acer saccharinum</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
<u>12</u> = Total Cover 50% of total cover: <u>6</u> 20% of total cover: <u>2.4</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Pityopsis graminifolia</u>	<u>2</u>	<u>Y</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Berchemia scandens</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Brunnichia ovata</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>17</u> = Total Cover 50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
Remarks: (If observed, list morphological adaptations below). <b>Hydrophytes are 50% dominants, not more than 50%</b>				

SOIL

Sampling Point: DP 8U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 12	10 YR 4/2	100					loam	no redox features in upper 12 inches

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)

- ☐ Polyvalue 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 (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 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)

<sup>3</sup>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:

No hydric soil indicators were observed.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-30-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 8-2U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77658699 Long: -92.24176169 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No signs of hydrology.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 8-2U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Pinus taeda</u>	<u>70</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. <u>Carpinus caroliniana</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Shrub Stratum (Plot size: <u>10m</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum (Plot size: <u>none</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>10</u> )</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Lonicera japonica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Smilax rotundifolia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>17</u> = Total Cover 50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 8-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 7	10 YR 3/3	90	7.5 YR 5/8	10			clay loam	
7 to 12	10 YR 4/3	90	7.5 YR 5/8	10			clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR O</b> )
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR S</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR O</b> )	<input type="checkbox"/> Reduced Vertic (F18) ( <b>outside MLRA 150A,B</b> )
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>LRR P, S, T</b> )
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) ( <b>LRR P, T, U</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> ( <b>MLRA 153B</b> )
<input type="checkbox"/> 5 cm Mucky Mineral (A7) ( <b>LRR P, T, U</b> )	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) ( <b>LRR U</b> )	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR P, T</b> )	<input type="checkbox"/> Marl (F10) ( <b>LRR U</b> )	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR O, P, T</b> )	
<input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 150A</b> )	<input type="checkbox"/> Umbric Surface (F13) ( <b>LRR P, T, U</b> )	
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR O, S</b> )	<input type="checkbox"/> Delta Ochric (F17) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) ( <b>MLRA 150A, 150B</b> )	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149A</b> )	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) ( <b>MLRA 149A, 153C, 153D</b> )	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR P, S, T, U</b> )		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

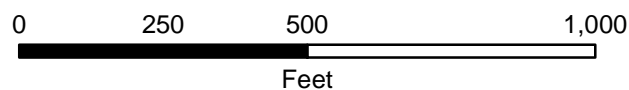
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:



Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>● Upland Data Point</li> <li>● Wetland Data Point</li> </ul> <p><b>Streams</b></p> <ul style="list-style-type: none"> <li>— Ephemeral</li> <li>— Intermittent</li> <li>— Perennial</li> </ul> | <p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>■ Maintained</li> <li>■ Emergent</li> <li>■ Forested</li> <li>■ Riverine</li> <li>■ Scrub-shrub</li> <li>■ Wetland Study Area</li> <li>— Proposed ROW</li> <li>— Existing ROW</li> <li>■ Culverts</li> </ul> |
|--|--|



#### Stream and Wetlands Report

Map 6 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas







Wetland 7 Data Point 7-4W. View is to the east.



Wetland 9 Data point 9W. View to the north.



Wetland 9 Data point 9U. View is to the west.



Wetland 9 Data point 9-2U. View is to the east.



Stream 4 Roadside ditch and culvert under North Hills Blvd. Connecting to Wetland 7 looking east.



Stream 4 Roadside ditch and culvert under North Hills Blvd. Connecting to Wetland 7 looking southeast.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Stream 4 Roadside ditch along North Hills Blvd. View is upupstream toward Wetland 9.



Stream 5 looking downstream.



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-08-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 7 - 4W  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77595100 Long: -92.24406509 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation No, Soil NO, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period.			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input checked="" type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)	
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>	
<b>Field Observations:</b>			
Surface Water Present?	Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present?	Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? (includes capillary fringe)	Yes <u>X</u> No _____ Depth (inches): <u>12</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:  Iron deposits and saturation occurred 10-12 inches deep. According to the US ACOE 2010 Wetland Manual: Atlantic and Gulf Coastal Plain Region, "visual observation of saturated soil conditions 12 in. or less," is a field indicator of wetland hydrology.			

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 7 - 4W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Celtis laevigata</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
2. <u>Ulmus rubra</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Acer saccharinum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>25</u> = Total Cover 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Cercis canadensis</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Ligustrum sinense</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
<b>Herb Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>none</u> )</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				



## SOIL

Sampling Point: DP 7 - 4W**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-12	10YR 3/2	95	10YR 5/4	5	C	M	clay loam
							Redox is distinct

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 9W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77681694 Long: -92.24371875 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PFO6A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Photo and hydrology updated 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<u>X</u> Surface Water (A1)	_____ Aquatic Fauna (B13)	<u>X</u> Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	_____ Marl Deposits (B15) <b>(LRR U)</b>	_____ Drainage Patterns (B10)
<u>X</u> Saturation (A3)	_____ Hydrogen Sulfide Odor (C1)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	<u>X</u> Oxidized Rhizospheres along Living Roots (C3)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Presence of Reduced Iron (C4)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Algal Mat or Crust (B4)	_____ Thin Muck Surface (C7)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Other (Explain in Remarks)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)		_____ FAC-Neutral Test (D5)
_____ Water-Stained Leaves (B9)		_____ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u>	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No _____ Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 9W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Salix nigra</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Acer saccharinum</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Taxodium distichum</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum (Plot size: <u>10m</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
<b>Herb Stratum (Plot size: <u>none</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Toxicodendron radicans</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Brunnichia ovata</u>	<u>2</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>4</u> = Total Cover 50% of total cover: <u>2</u> 20% of total cover: <u>0.8</u>				
Remarks: (If observed, list morphological adaptations below).				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

**SOIL**

Sampling Point: DP 9W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 2	7.5 YR 2/1	100					Clay Loam	
2 to 15	10 YR 3/1	75	7.5 YR 4/6	25	C	M, PL	clay loam	redox is prominent

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 9U  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5  
 Subregion (LRR or MLRA): LRRO Lat: 34.77696378 Long: -92.24357658 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Tiak-Urban land complex, 3 to 8 percent slopes NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Photo updated 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 9U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Melia azedarach</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>9</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3</u> (A/B)
2. <u>Carya glabra</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>30</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
Sapling Stratum (Plot size: <u>10m</u> )				
1. <u>Melia azedarach</u>	<u>10</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Carya glabra</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
<u>25</u> = Total Cover				
50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				
Shrub Stratum (Plot size: <u>10m</u> )				
1. <u>Ligustrum sinense</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>25</u> = Total Cover				
50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				
Herb Stratum (Plot size: <u>5m</u> )				
1. <u>Phytolacca americana</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. <u>Rubus argutus</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>50</u> = Total Cover				
50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
Woody Vine Stratum (Plot size: <u>10m</u> )				
1. <u>Ampelopsis arborea</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Brunnichia ovata</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>45</u> = Total Cover				
50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				
Remarks: (If observed, list morphological adaptations below).  It is possible that some of the <i>Brunnichia ovata</i> was rooted within the adjacent wetland but most was rooted within the sample plot.				

**SOIL**

Sampling Point: DP 9U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 2	7.5 YR 2/1	100					silty clay	no redox features
2 to 6	10 YR 5/2	100					silty clay	no redox features
6 to 8	10 YR 2/1	100					silty clay	no redox features
8	restrictive layer						rock	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

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

**Restrictive Layer (if observed):**

Type: rock  
Depth (inches): 8

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators were observed.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 9-2U  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S25, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 5  
 Subregion (LRR or MLRA): LRRO Lat: 34.77717798 Long: -92.2439387 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Tiak-Urban land complex, 3 to 8 percent slopes NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Photo updated 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 9-2U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Pyrus calleryana</u>	<u>35</u>	<u>Y</u>	<u>NR</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Prunus serotina</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Juniperus virginiana</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Prunus serotina</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Ligustrum sinense</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
<b>Herb Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____      20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Parthenocissus quinquefolia</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Smilax bona-nox</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. <u>Lonicera japonica</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
Remarks: (If observed, list morphological adaptations below). <b>Species categorized as NR are treated as UPL for analysis.</b>				

## SOIL

Sampling Point: DP 9-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10 YR 4/4	100					silty clay	no redox features
4 to 9	10 YR 4/3	100					silty clay	no redox features
9	restrictive layer						rock	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

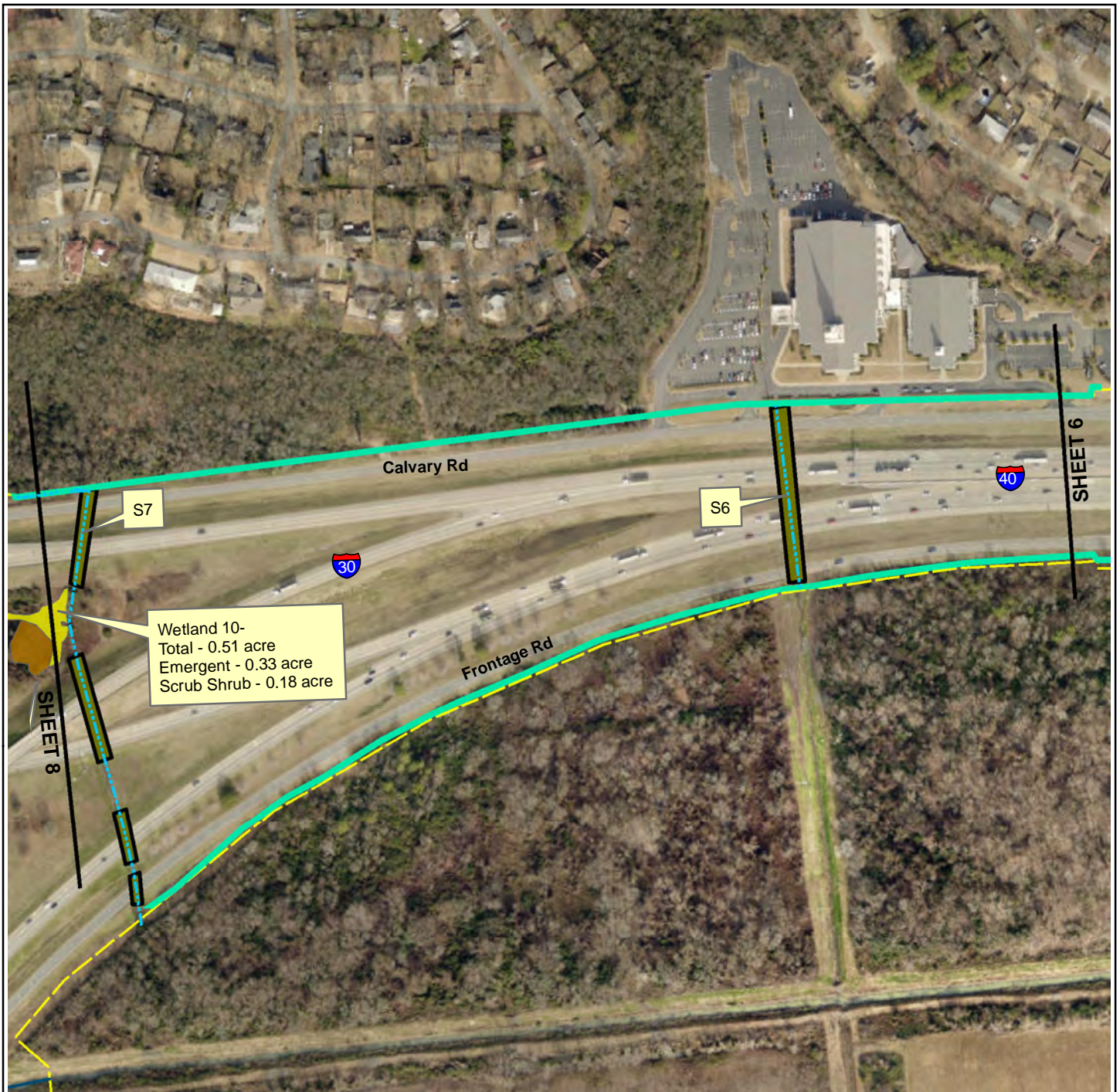
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: RockDepth (inches): 9Hydric Soil Present? Yes ☐ No ☒

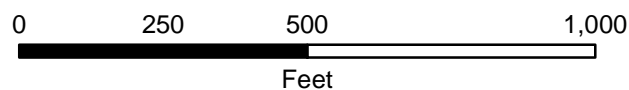
Remarks:

No hydric soil indicators were observed.





Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

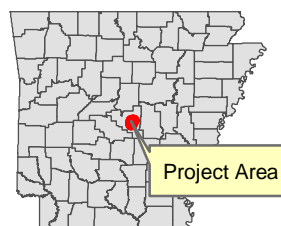
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

Map 7 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas







Stream 6 looking downstream from culvert.



Stream 6 Upper reach that is piped.



Stream 7 Typical reach.



Stream 7 At the culvert.



Stream 7 Between frontage road and I-40 EB ramp.

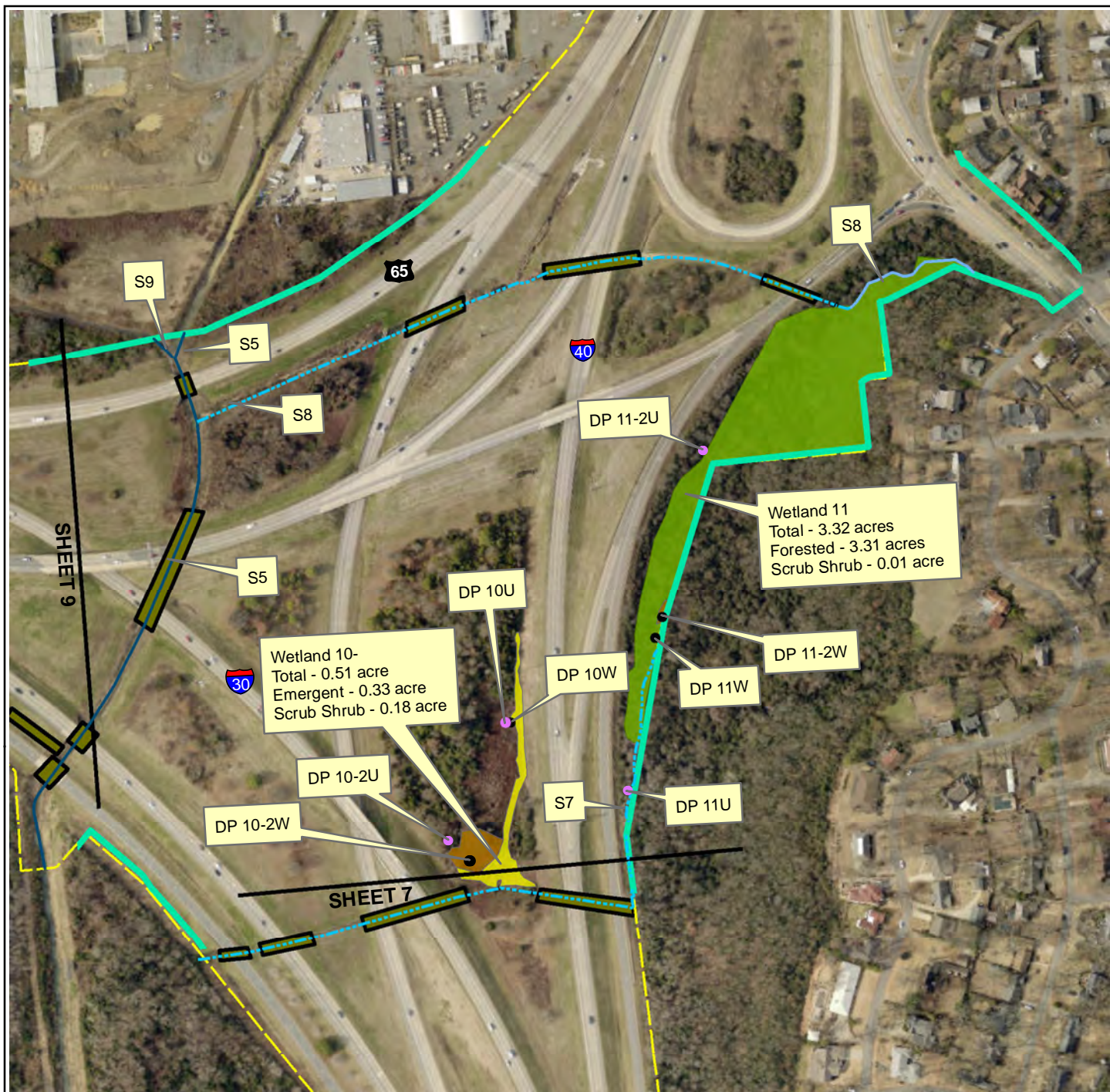


Wetland outside of project area adjacent to Stream 7.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.

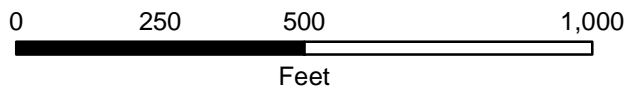






Source(s): Field collected GPS data

ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

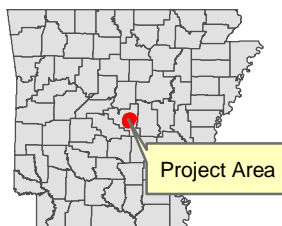
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

Map 8 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas









Wetland 10 Data point 10W. View is to the west.



Wetland 10 Data point 10-2W. View is to the north.



Wetland 10 Data point 10U. View is to the northeast.



Wetland 10 Data point 10-2U. View is to the south.



Wetland 11 Data point 11W. View is to the southwest.



Wetland 11 Data point 11-2W. View is the southeast.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 11 Data point 11-2W. View is to the north.



Wetland 11 Data point 11U. View is to the south.



Wetland 11 Data point 11-2U. View is to the west.



Stream 5 View is from SE of I-40 - culvert to culvert.



Stream 5 View is I-40 to I-30 WB crossing.



Stream 7 Looking upstream.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Stream 7 Looking downstream.



Stream 7 Upper storm drain.



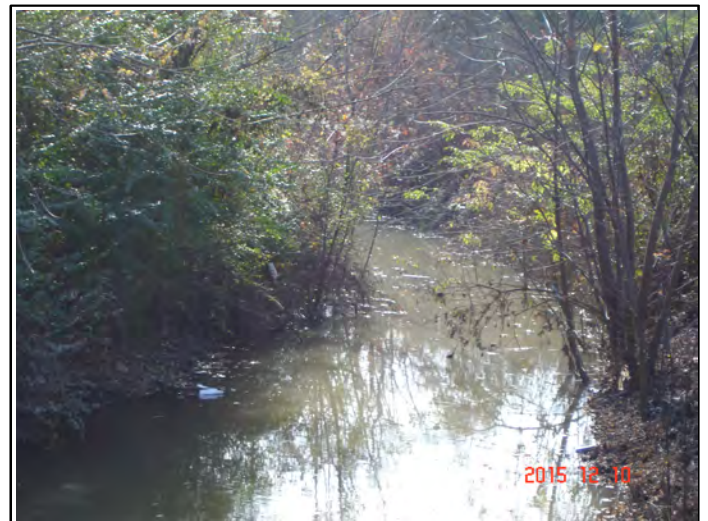
Stream 7 Culvert under interstate ramp.



Stream 7 Lower storm drain.



Stream 8 At mower crossing.



Stream 9 west of Highway 65. View is upstream.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Stream 9 west of Highway 65. Entry to stream 4.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-11-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 10 W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S26, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77838057 Long: -92.25899681 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban Land NWI classification: PEM 1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Wetland positioned between toe of interstate fill slope and a topographic rise (~2ft) across from the interstate.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>5</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Hydrology updated 12-11-15.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 10W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				
1. <u>Persicaria hydropiperoides</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Persicaria pensylvanica</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Hibiscus moscheutos</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>
Woody Vine Stratum (Plot size: <u>none</u> )				
1. <u>Brunnichia ovata</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				_____ = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>
50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 10W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10 YR 4/3	100					loamy clay	
3 to 12	10 YR 3/1	80	7.5 YR 5/6	20	C	M,PL	loamy clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-30-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 10-2W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S26, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.77803321 Long: -92.25801562 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.		

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes <u>X</u> No _____
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>2.5</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 10-2W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Ligustrum sinense</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>30</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
<b>Herb Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Lonicera japonica</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rubus argutus</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>120</u> = Total Cover				
50% of total cover: <u>60</u> 20% of total cover: <u>24</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 10-2W

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

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0 to 10	10 YR 4/2	80	10 YR 5/6	20	C	M,PL	loam	distinct redox/soft masses
10	restrictive layer							hardpan

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

☐ 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)

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

**Restrictive Layer (if observed):**Type: hardpanDepth (inches): 10Hydric Soil Present? Yes X No       

Remarks:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 10U  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S26, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77835122 Long: -92.25900272 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban Land NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Photo updated 12-11-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 10U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Phytolacca americana</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Rubus idaeus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Senecio hieraciifolius</u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				
1. <u>Brunnichia ovata</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
  
 Total Number of Dominant Species Across All Strata: 4 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**  

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

**Hydrophytic Vegetation Indicators:**  
   1 - Rapid Test for Hydrophytic Vegetation  
   2 - Dominance Test is >50%  
   3 - Prevalence Index is ≤3.0<sup>1</sup>  
   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

<b>Hydrophytic Vegetation Present?</b>	Yes _____ No <u>X</u>
--	-----------------------

Remarks: (If observed, list morphological adaptations below).  
  
 It is possible that some of the Brunnichia was rooted within the adjacent wetland, but much was rooted within the sample plot.

**SOIL**

Sampling Point: DP 10U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 15	5YR 5/3	98	7.5 YR 5/6	2	C	M	silty clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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 X

Remarks:

No hydric soil indicators were observed.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-30-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 10-2U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S26, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77791930 Long: -92.25817666 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban land complex, 0 to 1 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>X High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u>		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 10-2U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carpinus caroliniana</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u>Ulmus alata</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>45</u> = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum (Plot size: <u>10m</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
<b>Herb Stratum (Plot size: <u>none</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>5m</u> )</b>				
1. <u>Smilax rotundifolia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
2. <u>Lonicera japonica</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>22</u> = Total Cover 50% of total cover: <u>11</u> 20% of total cover: <u>4.4</u>				
Remarks: (If observed, list morphological adaptations below). <b>Hydrophytes equal 50% not greater than 50%</b>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u> _____

## SOIL

Sampling Point: DP 10-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	10 YR 3/2	98	10 YR 5/6	2			loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 11W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S26, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.7793372 Long: -92.25948666 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PFO1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Area likely is old borrow pit or stormwater pond.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Drainage from upslope residential housing flows into this area and ramifies across the more level portions of the wetland.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 11W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharinum</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Salix nigra</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>80</u> = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Acer saccharinum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
<b>Shrub Stratum (Plot size: <u>10m</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Cephalanthus occidentalis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Ligustrum sinense</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
<b>Herb Stratum (Plot size: <u>none</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>none</u> )</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 11W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10 YR 3/1	80	7.5 YR 4/6	20	C	M,PL	clay loam	prominent redox
4 to 8	10 YR 3/1	60	7.5 YR 4/6	40	C	M	clay loam	prominent redox
8 to 12	10 YR 3/1	80	7.5 YR 4/6	20	C	M	clay loam	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>                 |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>                       |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Gleyed Matrix (F2)  |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Depleted Matrix (F3)  |
| <input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>     | <input checked="" type="checkbox"/> Redox Dark Surface (F6)                                |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b> | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>             | <input type="checkbox"/> Marl (F10) <b>(LRR U)</b>   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b> | <input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>   | <input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>                     |
| <input type="checkbox"/> Sandy Redox (S5)                             | <input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>                |
| <input type="checkbox"/> Stripped Matrix (S6)                         | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> |
| <input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 11-2W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S26, T2N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.77948812 Long: -92.25966318 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: PSS1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Area likely is old borrow pit or stormwater pond.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Drainage from upslope residential housing flows into this area and ramifies across the more level portions of the wetland.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 11-2W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>10m x 3m</u> )				
1. <u>Salix nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m x 3m</u> )				
1. <u>Cephalanthus occidentalis</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
<b>Herb Stratum</b> (Plot size: <u>10m x 3m</u> )				
1. <u>Dichanthelium scoparium</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Impatiens capensis</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3. <u>Pilea pumila</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Juncus effusus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 11-2W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10 YR 3/1	80	7.5 YR 4/6	20	C	M	clay loam	prominent redox
4 to 8	10 YR 3/1	60	7.5 YR 4/6	40	C	M	clay loam	prominent redox
8 to 12	10 YR 3/1	80	7.5 YR 4/6	20	C	M	clay loam	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-30-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 11U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S26, T2N, R12W  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): slope Slope (%): 30  
 Subregion (LRR or MLRA): LRRO Lat: 34.779038 Long: -92.2657883 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 11U

Tree Stratum (Plot size: <u>10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Celtis occidentalis</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
2. <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Ulmus alata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Shrub Stratum (Plot size: <u>5m</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
<b>Herb Stratum (Plot size: <u>5</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Ligustrum sinense</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
<b>Woody Vine Stratum (Plot size: <u>5</u> )</b>				
1. <u>Lonicera japonica</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
Remarks: (If observed, list morphological adaptations below).				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>



SOIL

Sampling Point: DP 11U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10 YR 3/3	100					clay loam	
4	restrictive layer							Roadside fill/gravel

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)

- ☐ Polyvalue 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 (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 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)

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

Restrictive Layer (if observed):

Type: roadside fill/gravel  
Depth (inches): 4

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-30-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 11-2U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S26, T2N, R12W  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Slope Slope (%): 50  
 Subregion (LRR or MLRA): LRRO Lat: 34.77979649 Long: -92.26084414 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Urban Land Complex, 0 to 1 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No hydrologic indicators.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 11-2U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Ligustrum sinense</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>90</u> = Total Cover				
50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				
Herb Stratum (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 11-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10 YR 3/3	100					clay loam	
3 to 10	2.5 Y 4/3	100					clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

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

**Restrictive Layer (if observed):**

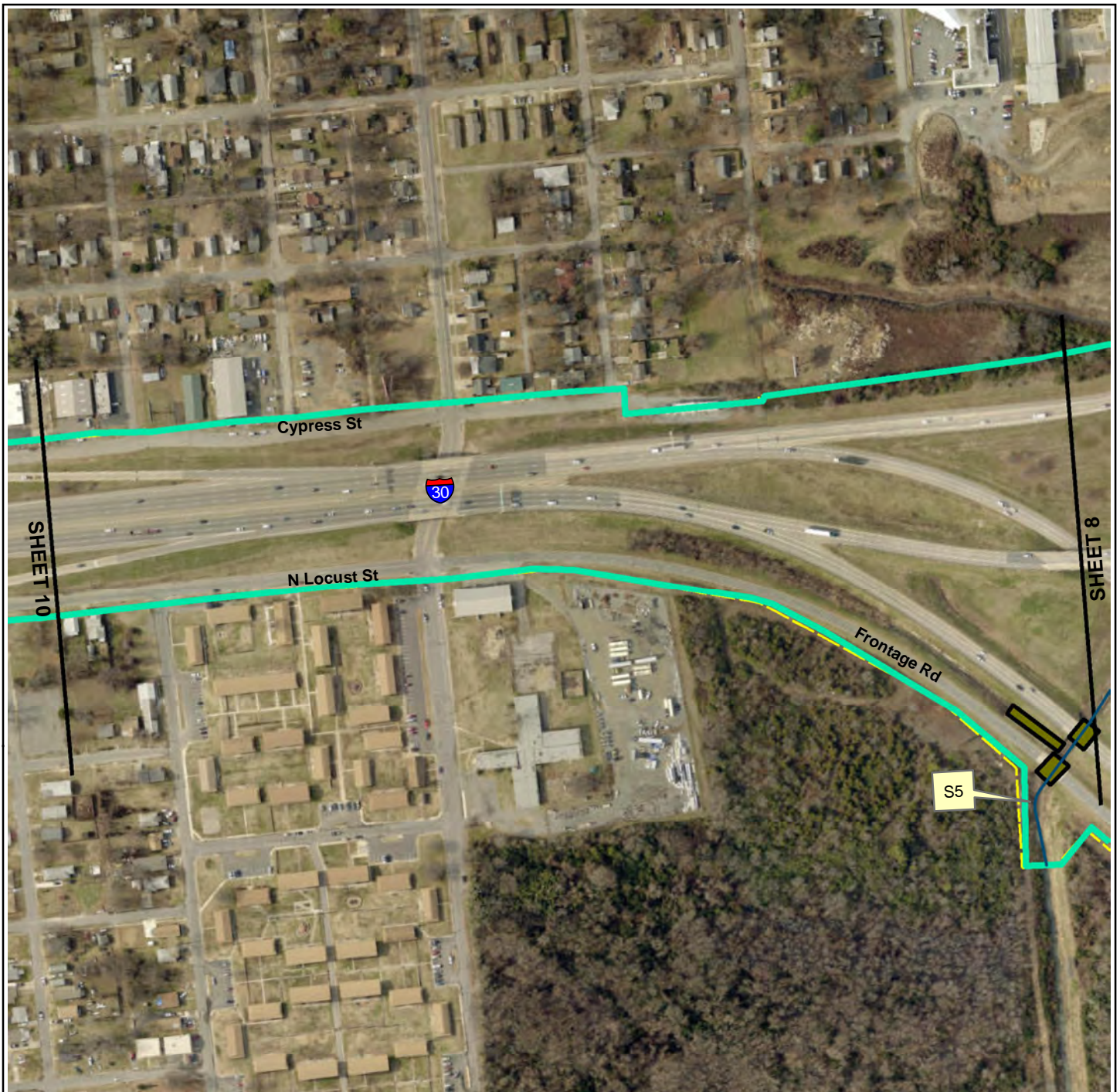
Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

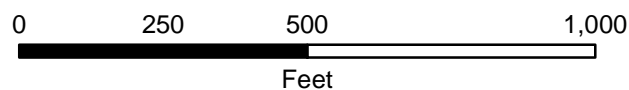
Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:





Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

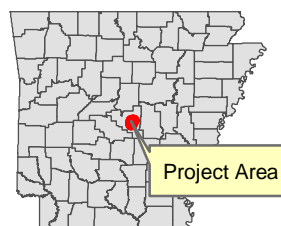
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

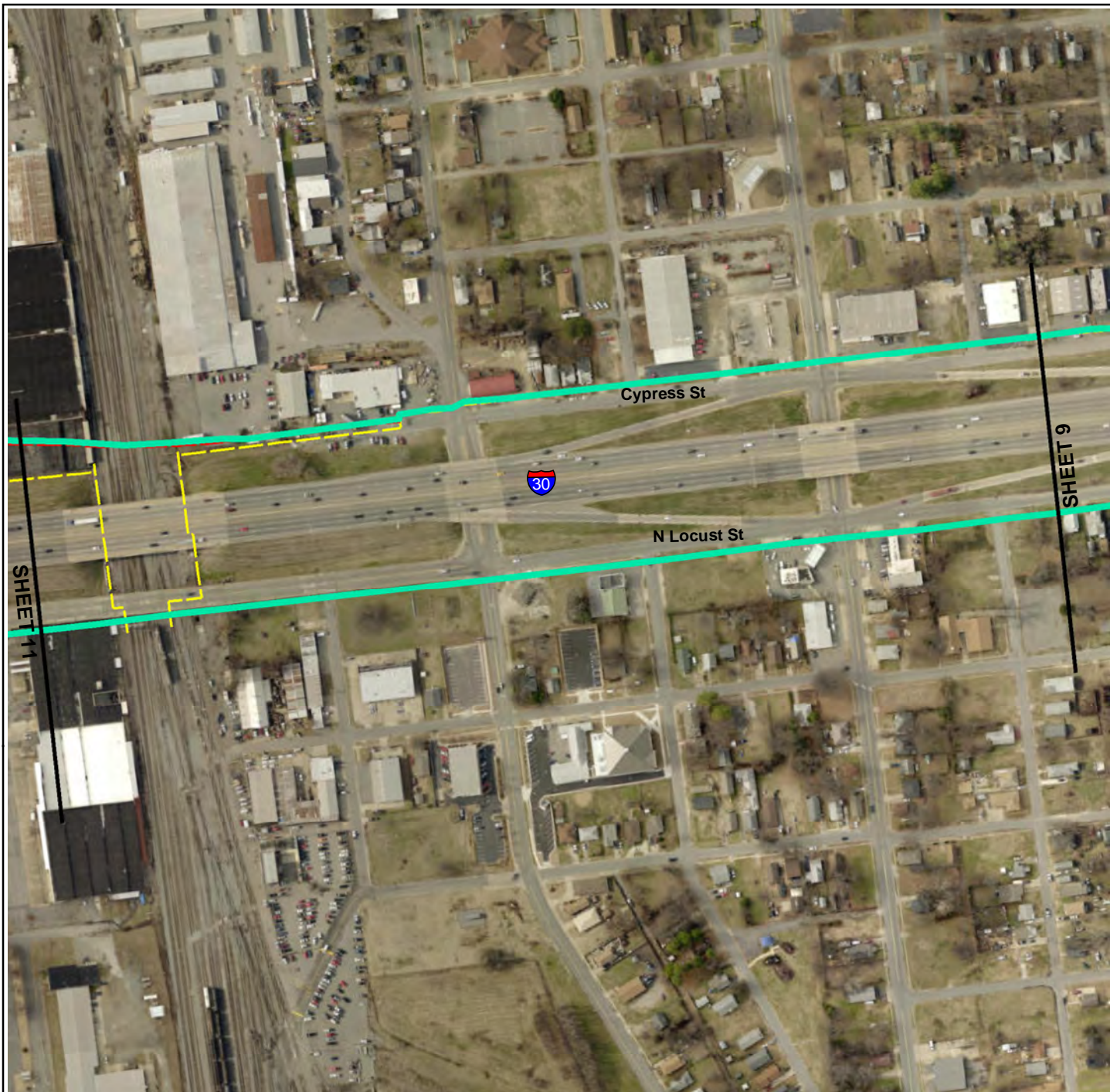
Map 9 of 21

I-30 from I-530 to Hwy. 67

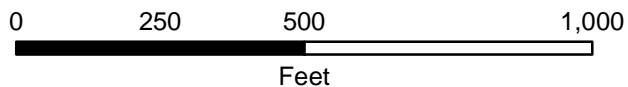
Pulaski County, Arkansas







Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

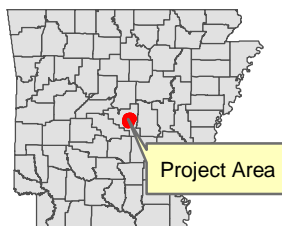
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

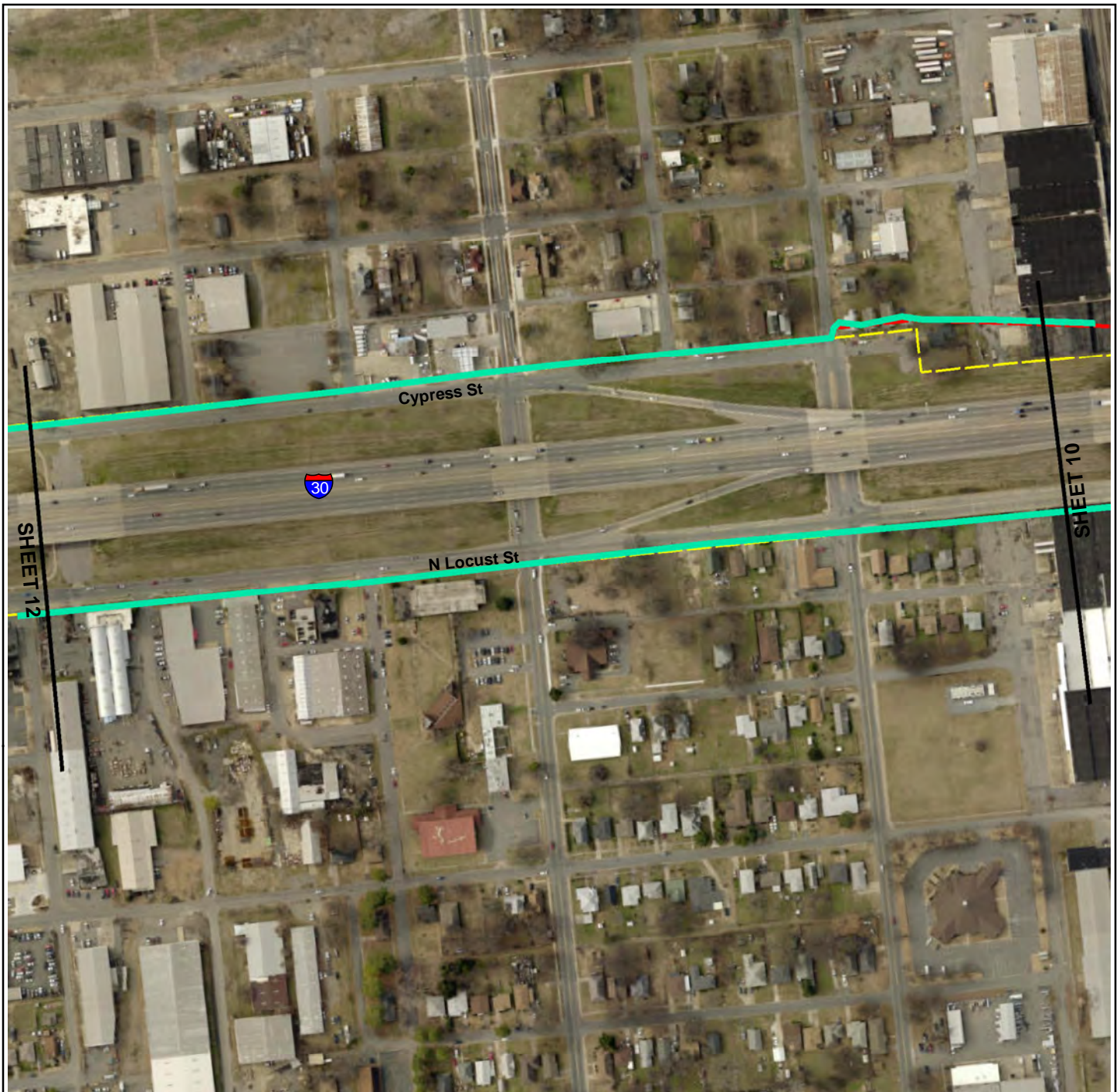
Map 10 of 21

I-30 from I-530 to Hwy. 67

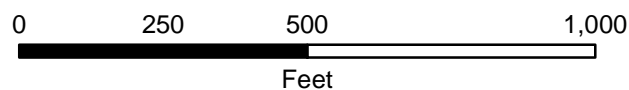
Pulaski County, Arkansas







Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

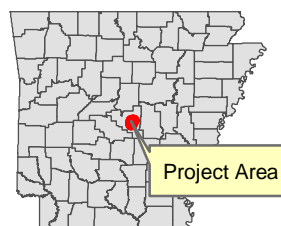
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

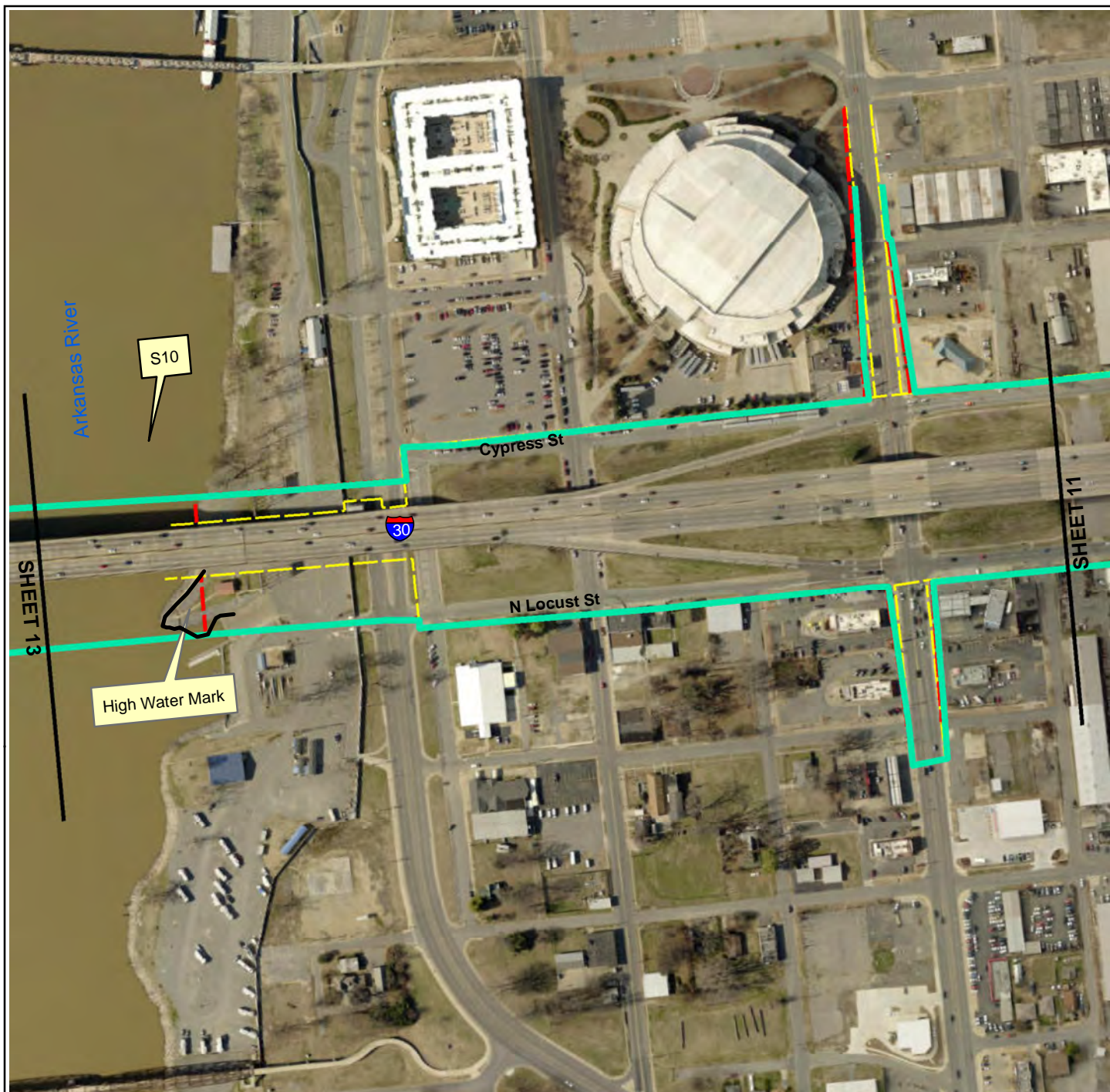
Map 11 of 21

I-30 from I-530 to Hwy. 67

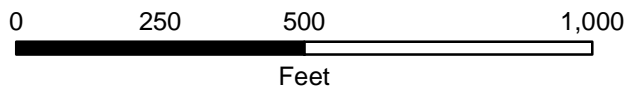
Pulaski County, Arkansas





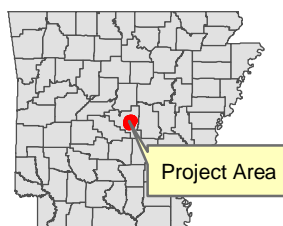


Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>● Upland Data Point</li> <li>● Wetland Data Point</li> </ul> <p><b>Streams</b></p> <ul style="list-style-type: none"> <li>— Ephemeral</li> <li>— Intermittent</li> <li>— Perennial</li> </ul> | <p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>■ Maintained</li> <li>■ Emergent</li> <li>■ Forested</li> <li>■ Riverine</li> <li>■ Scrub-shrub</li> <li>■ Wetland Study Area</li> <li>--- Proposed ROW</li> <li>--- Existing ROW</li> <li>■ Culverts</li> </ul> |
|--|--|



#### Stream and Wetlands Report

Map 12 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas





Stream 10 Arkansas River. View is to the southeast.



Stream 10 Arkansas River. View is to the southwest.



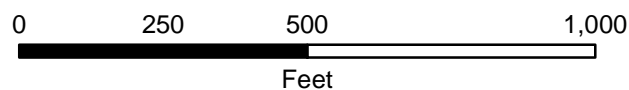
Stream 10 Arkansas River. View is to the south.





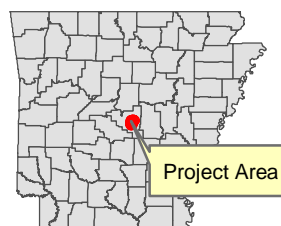


Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>● Upland Data Point</li> <li>● Wetland Data Point</li> </ul> <p><b>Streams</b></p> <ul style="list-style-type: none"> <li>— Ephemeral</li> <li>— Intermittent</li> <li>— Perennial</li> </ul> | <p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>■ Maintained</li> <li>■ Emergent</li> <li>■ Forested</li> <li>■ Riverine</li> <li>■ Scrub-shrub</li> <li>■ Wetland Study Area</li> <li>— Proposed ROW</li> <li>— Existing ROW</li> <li>■ Culverts</li> </ul> |
|--|--|



#### Stream and Wetlands Report

Map 13 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas







Stream 10 View is to the northeast.



Stream 10 View is to the north.



Wetland 12 Data point 12W. View is to the north.



Wetland 13 Data point 13W. View is to the east.



Wetland 13 Data point 13W. View is to the north.



Upland area between Wetland 12 and Wetland 13.  
View is to the northeast.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Upland area between Wetland 12 and Wetland 13.  
View is to the northwest.



Upland area between Wetland 12 and Wetland 13.



Upland area between Wetland 12 and Wetland 13.





# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-11-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 12W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S2, T1N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.445386 Long: -92.154997 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban land, water NWI classification: R2US5F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period. Access prohibited to rivers edge therefore slope was assumed.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<u>X</u> Surface Water (A1)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Marl Deposits (B15) ( <b>LRR U</b> )	___ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b>		
Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0 to 5ft</u>	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No _____ Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Water depth assumed because access to the waters edge was prohibited. Surface water was present (visible from observation point).		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 12W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Platanus occidentalis</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Ligustrum sinense</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Sambucus nigra</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
<b>Herb Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Vitis cinerea</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 12W

[illegible]

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-11-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 13W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S2, T1N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.445244 Long: -92.154388 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban land, water NWI classification: R2US5F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period. Slope at data point was estimated from viewing /access point near waters edge.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<u>X</u> Surface Water (A1)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Marl Deposits (B15) <b>(LRR U)</b>	___ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>2 to 5ft</u>	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No _____ Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Water depth at data point was estimated from viewing /access point near waters edge.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 13W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Alternanthera philoxeroides</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Lemna minor</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Hydrocotyle umbellata</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>60</u> 20% of total cover: <u>24</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Ampelopsis cordata</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below).				
<b>Ampelopsis is overhanging water.</b>				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  
  
 Total Number of Dominant Species Across All Strata: 3 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**  

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

**Hydrophytic Vegetation Indicators:**  
X 1 - Rapid Test for Hydrophytic Vegetation  
 \_\_\_\_\_ 2 - Dominance Test is >50%  
 \_\_\_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?**      Yes X      No \_\_\_\_\_

## SOIL

Sampling Point: DP 13W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

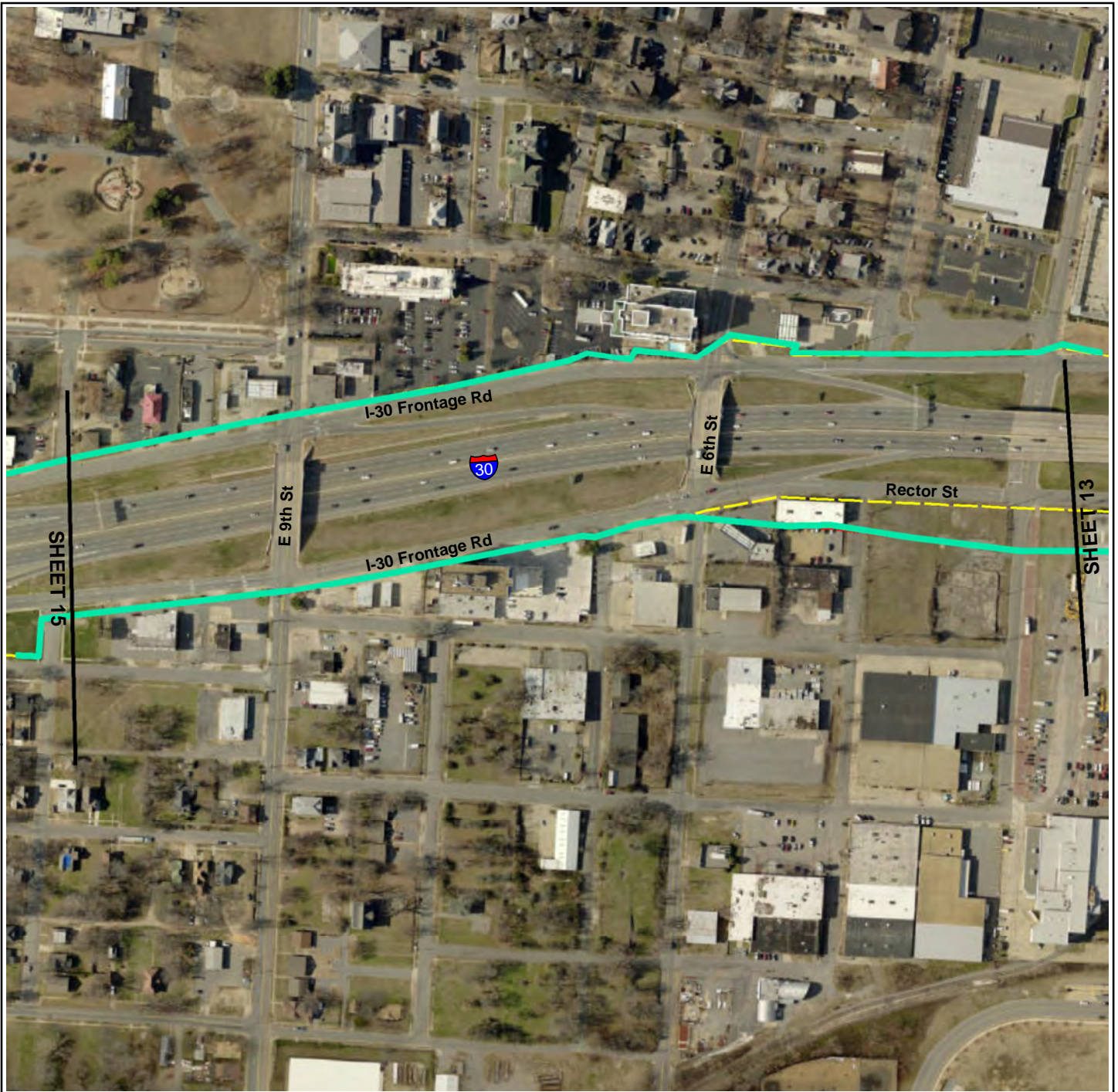
Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

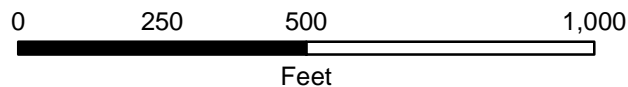
Hydric Soil Present? Yes ☒ No \_\_\_\_\_

Remarks:

No soil sample taken. Nearly permanently flooded river edge.

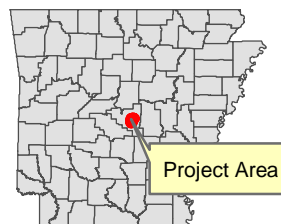


Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>● Upland Data Point</li> <li>● Wetland Data Point</li> </ul> <p><b>Streams</b></p> <ul style="list-style-type: none"> <li>— Ephemeral</li> <li>— Intermittent</li> <li>— Perennial</li> </ul> | <p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>■ Maintained</li> <li>■ Emergent</li> <li>■ Forested</li> <li>■ Riverine</li> <li>■ Scrub-shrub</li> <li>■ Wetland Study Area</li> <li>--- Proposed ROW</li> <li>--- Existing ROW</li> <li>■ Culverts</li> </ul> |
|--|--|



#### Stream and Wetlands Report

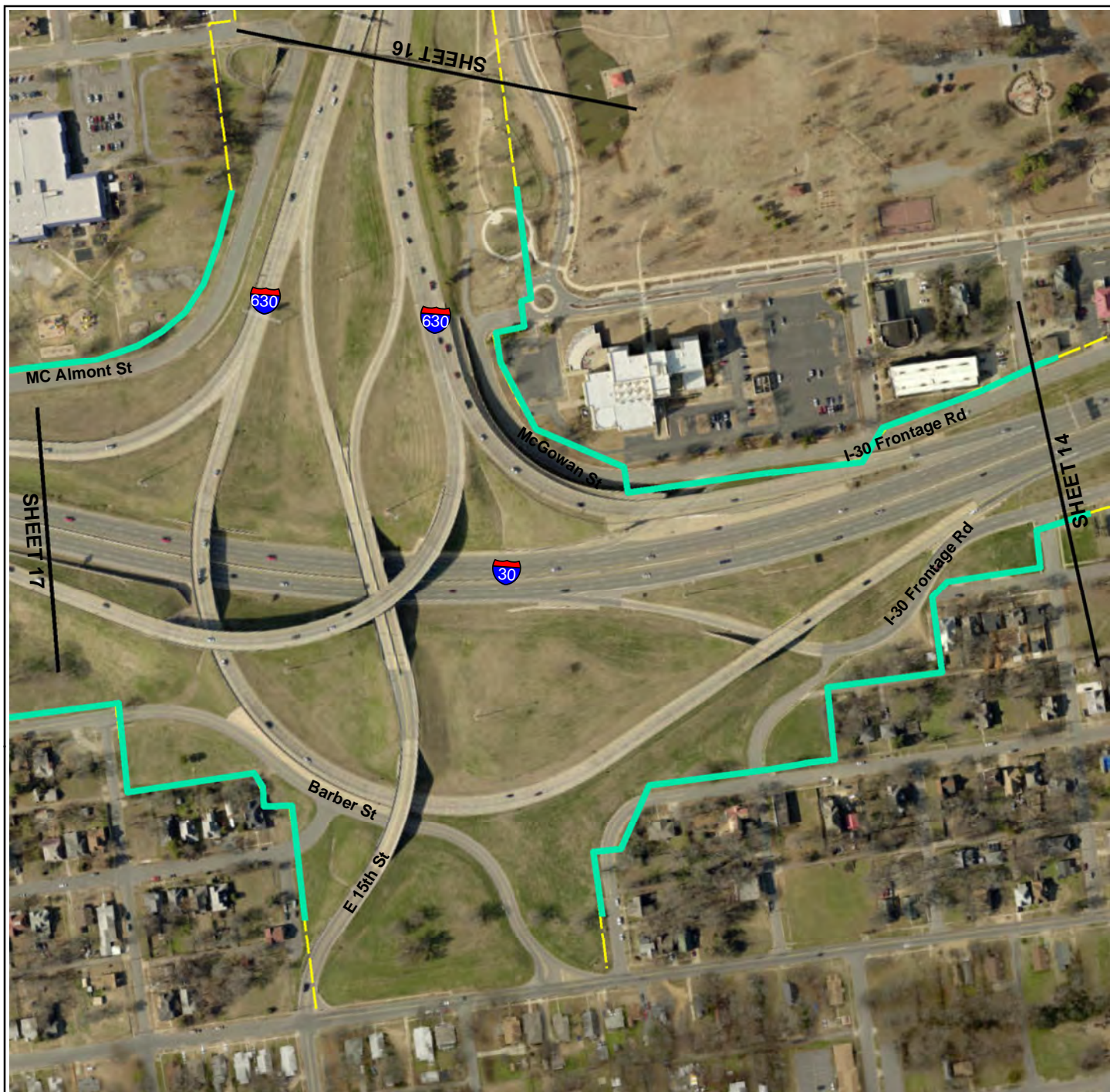
Map 14 of 21

I-30 from I-530 to Hwy. 67

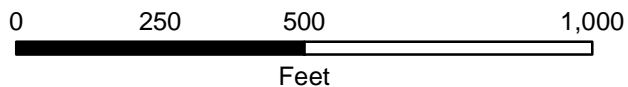
Pulaski County, Arkansas







Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

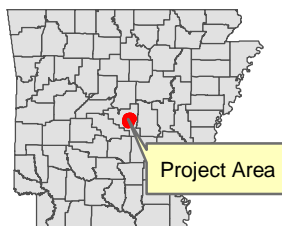
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

Map 15 of 21

I-30 from I-530 to Hwy. 67

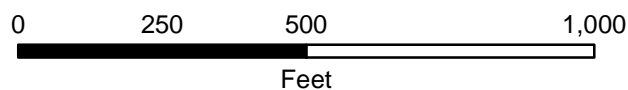
Pulaski County, Arkansas







Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

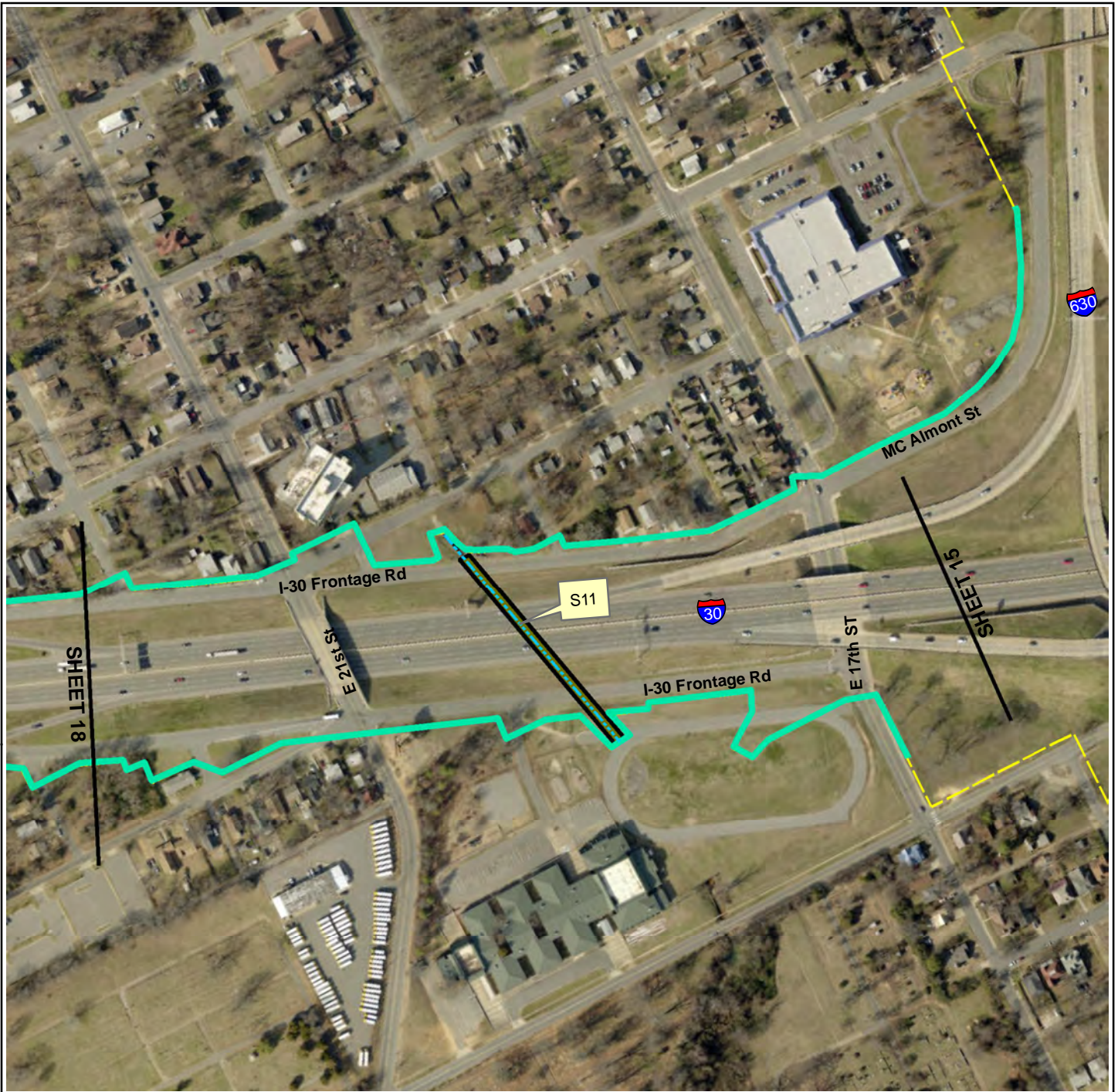
Map 16 of 21

I-30 from I-530 to Hwy. 67

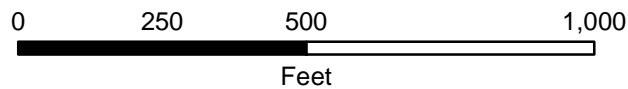
Pulaski County, Arkansas





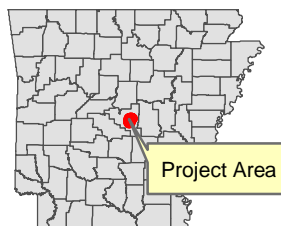


Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- Upland Data Point
- Wetland Data Point
- Streams**
  - Ephemeral
  - Intermittent
  - Perennial
- Wetlands**
  - Maintained
  - Emergent
  - Forested
  - Riverine
  - Scrub-shrub
  - Wetland Study Area
  - Proposed ROW
  - Existing ROW
  - Culverts



#### Stream and Wetlands Report

Map 17 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas







Stream 11 US open channel just upstream of project area.



Stream 11 Downstream as it enters project area.



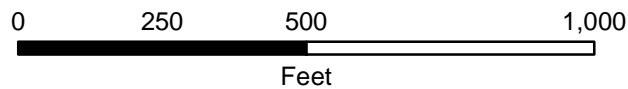
Stream 11 Downstream from eastern boundary of project area.





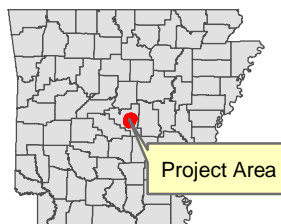


Source(s): Field collected GPS data  
 ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>● Upland Data Point</li> <li>● Wetland Data Point</li> </ul> <p><b>Streams</b></p> <ul style="list-style-type: none"> <li>— Ephemeral</li> <li>— Intermittent</li> <li>— Perennial</li> </ul> | <p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>■ Maintained</li> <li>■ Emergent</li> <li>■ Forested</li> <li>■ Riverine</li> <li>■ Scrub-shrub</li> <li>■ Wetland Study Area</li> <li>— Proposed ROW</li> <li>— Existing ROW</li> <li>■ Culverts</li> </ul> |
|--|--|



#### Stream and Wetlands Report

Map 18 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas







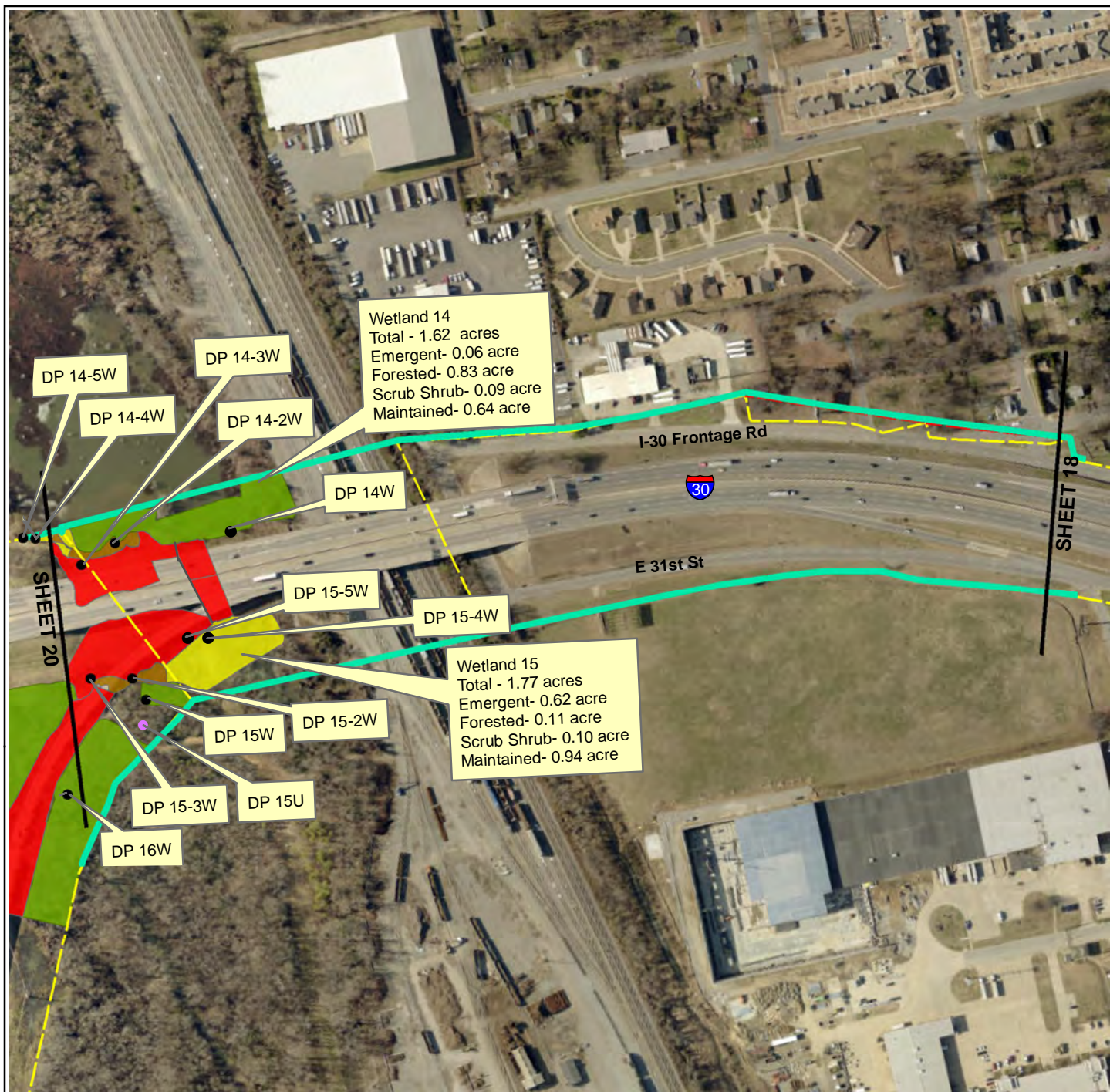
Stream 12 View is to the west.



Stream 12 View is to the east.

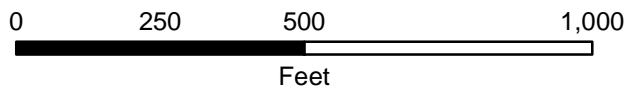
CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.





Source(s): Field collected GPS data

ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

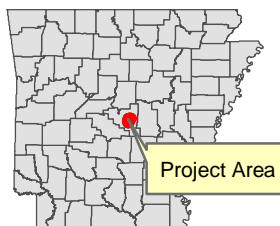
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

Map 19 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas







Wetland 14 Data point 14W. View is to the northwest.



Wetland 14 Data point 14-2W. View is to the northwest.



Wetland 14 Data point 14-3W. View is to the west.



Wetland 14 Data point 14-3W. View is to the southwest.



Wetland 15 Data point 15W. View is to the southwest.



Wetland 15 Data point 15-2W. View is to the south.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 15 Data point 15-3W. View is to the north.



Wetland 15 Data point 15-3W. View is to the north.



Wetland 15 Data point 15-4W. View is to the north.



Wetland 15 Data point 15-5W. View is to the south.



Wetland 15 Data point 15U. View is to the north.



Wetland 16 Data point 16W. View is to the southeast.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 16 Data point 16W. View is to the east.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-31-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 14W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.71666620 Long: -92.26990587 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban Land NWI classification: PFO1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
Primary Indicators (minimum of one is required; check all that apply)		
<u>X</u> Surface Water (A1)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	___ Marl Deposits (B15) ( <b>LRR U</b> )	___ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Water Marks (B1)	<u>X</u> Oxidized Rhizospheres along Living Roots (C3)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	<u>X</u> Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
<u>X</u> Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b>		
Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>6 to 8</u>	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u>		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 14W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Taxodium distichum</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>25</u> = Total Cover 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Shrub Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Cephalanthus occidentalis</u>	<u>2</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Persicaria hydropiperoides</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>105</u> = Total Cover 50% of total cover: <u>52.5</u> 20% of total cover: <u>21</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 14W

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0 to 4	10 YR 3/2	75	7.5 YR 5/8	25	C	sandy mucky	prominent redox
4 to 6	5 GY 6/1	80	5 YR 4/6	20		clay loam	
6	restrictive layer						hardpan

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>                 |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>                       |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)                               |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Depleted Matrix (F3)  |
| <input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>     | <input type="checkbox"/> Redox Dark Surface (F6)   |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b> | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>             | <input type="checkbox"/> Marl (F10) <b>(LRR U)</b>   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b> | <input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>   | <input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>                     |
| <input checked="" type="checkbox"/> Sandy Redox (S5)                  | <input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>                |
| <input type="checkbox"/> Stripped Matrix (S6)                         | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> |
| <input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

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

**Restrictive Layer (if observed):**

Type: hardpan  
Depth (inches): 6

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 14-2W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.7159464 Long: -92.27003168 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban land NWI classification: PSS6F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<u>X</u> Surface Water (A1)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Marl Deposits (B15) <b>(LRR U)</b>	___ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Hydrogen Sulfide Odor (C1)	<u>X</u> Drainage Patterns (B10)
___ Water Marks (B1)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	<u>X</u> Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u>	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No _____ Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 14-2W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Taxodium distichum</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Cephalanthus occidentalis</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Baccharis halimifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Persicaria hydropiperoides</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Ludwigia peploides</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Ampelopsis arborea</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below).				



## SOIL

Sampling Point: DP 14-2W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 1	10 YR 4/4	100					loamy clay	
1 to 12	10 YR 3/1	65	7.5 YR 4/6	35	C	M,PL	loamy clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 14-3W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71537602 Long: -92.27024141 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban land NWI classification: PSS6F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u> Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 14-3W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Taxodium distichum</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Cephalanthus occidentalis</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Baccharis halimifolia</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: <u>6</u> 20% of total cover: <u>2.4</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Persicaria hydropiperoides</u>	<u>45</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 14 - 3W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 1	10 YR 4/4	100					loamy clay	
1 to 12	10 YR 3/1	65	7.5 YR 4/6	35	C	M,PL	loamy clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-10-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 15W  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71588298 Long: -92.26880795 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban Land NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<u>X</u> Surface Water (A1)	___ Aquatic Fauna (B13)	<u>X</u> Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Marl Deposits (B15) <b>(LRR U)</b>	<u>X</u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	<u>X</u> Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u>	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No _____ Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Pockets of surface water and the rest is saturated.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 15W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus phellos</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Salix nigra</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Diospyros virginiana</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
4. <u>Fraxinus pennsylvanica</u>	<u>45</u>	<u>Y</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>92</u> = Total Cover 50% of total cover: <u>46</u> 20% of total cover: <u>18.4</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Quercus phellos</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
2. <u>Diospyros virginiana</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>12</u> = Total Cover 50% of total cover: <u>6</u> 20% of total cover: <u>2.4</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____      20% of total cover: _____				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
<b>Herb Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____      20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No _____
<b>Woody Vine Stratum (Plot size: <u>none</u> )</b>				
1. <u>Smilax bona-nox</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Lonicera japonica</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 15W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 6	10 YR 3/1	90	7.5 YR 4/6	10	C	M	silty loam	prominent redox
6 to 15	10 YR 2/1	80	7.5 YR 5/6	20	C	M	silty loam	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 15-2W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71585375 Long: -92.26900501 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban Land NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>4</u>		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Standing water present in the wetland, but not at the sample point.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 15-2W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Persicaria hydropiper</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Persicaria lapathifolia</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3. <u>Alternanthera philoxeroides</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Ludwigia peploides</u>	<u>20</u>	<u>N</u>	<u>OBL</u>	
5. <u>Hydrolea uniflora</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>78.5</u> 20% of total cover: <u>31.4</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 15-2W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	5N	100					silt loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 15-3W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71563607 Long: -92.26907796 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urband Land NWI classification: PSS1E/ PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 15-3W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Diospyros virginiana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>5</u> = Total Cover				
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Cephalanthus occidentalis</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>80</u> = Total Cover				
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Rhynchospora corniculata</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. <u>Hibiscus moscheutos</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>25</u> = Total Cover				
50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				
<b>Woody Vine Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).  <b>Maintained periodically. In December 2015 the Cephalanthus was mowed.</b>				



**SOIL**

Sampling Point: DP 15-3W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 1							organic duff	
1 to 12	10 YR 3/1	85	7.5 YR 4/6	15	C	M,PL	clay loam	prominent redox
12 to 16	7.5 YR 4/2	95	7.5 YR 4/6	5	C	M	clay loam	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-31-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 15-4W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 0 to 4  
 Subregion (LRR or MLRA): LRRO Lat: 34.71637075 Long: -92.26916163 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban Land NWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.					

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>	
Primary Indicators (minimum of one is required; check all that apply)			
<u>X</u> Surface Water (A1)	_____ Aquatic Fauna (B13)	_____ Surface Soil Cracks (B6)	
<u>X</u> High Water Table (A2)	_____ Marl Deposits (B15) (LRR U)	_____ Sparsely Vegetated Concave Surface (B8)	
<u>X</u> Saturation (A3)	_____ Hydrogen Sulfide Odor (C1)	_____ Drainage Patterns (B10)	
_____ Water Marks (B1)	_____ Oxidized Rhizospheres along Living Roots (C3)	_____ Moss Trim Lines (B16)	
_____ Sediment Deposits (B2)	_____ Presence of Reduced Iron (C4)	_____ Dry-Season Water Table (C2)	
_____ Drift Deposits (B3)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Crayfish Burrows (C8)	
_____ Algal Mat or Crust (B4)	_____ Thin Muck Surface (C7)	_____ Saturation Visible on Aerial Imagery (C9)	
_____ Iron Deposits (B5)	_____ Other (Explain in Remarks)	_____ Geomorphic Position (D2)	
<u>X</u> Inundation Visible on Aerial Imagery (B7)		_____ Shallow Aquitard (D3)	
<u>X</u> Water-Stained Leaves (B9)		_____ FAC-Neutral Test (D5)	
		_____ Sphagnum moss (D8) (LRR T, U)	
<b>Field Observations:</b>			
Surface Water Present?	Yes <u>X</u> No _____ Depth (inches): <u>0 to 8</u>	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present?	Yes <u>X</u> No _____ Depth (inches): <u>0</u>		
Saturation Present? (includes capillary fringe)	Yes <u>X</u> No _____ Depth (inches): <u>surface</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 15-4W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				
1. <u>Persicaria hydropiperoides</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
2. <u>Juncus effusus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Hibiscus moscheutos</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
4. <u>Rhynchospora corniculata</u>	<u>20</u>	<u>N</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>61</u> 20% of total cover: <u>24.4</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: DP 15-4W

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0 to 10	10 YR 4/2	75	2.5 YR 4/8	25	C	M	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)

- ☐ Polyvalue 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 (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 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)

<sup>3</sup>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:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-31-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 15-5W  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): concave Slope (%): 0 to 4  
 Subregion (LRR or MLRA): LRRO Lat: 34.71624615 Long: -92.26919585 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban Land NWI classification: PSS1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.					

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>			
<u>X</u> Surface Water (A1)	_____ Aquatic Fauna (B13)	_____ Surface Soil Cracks (B6)	
<u>X</u> High Water Table (A2)	_____ Marl Deposits (B15) <b>(LRR U)</b>	_____ Sparsely Vegetated Concave Surface (B8)	
<u>X</u> Saturation (A3)	_____ Hydrogen Sulfide Odor (C1)	_____ Drainage Patterns (B10)	
_____ Water Marks (B1)	_____ Oxidized Rhizospheres along Living Roots (C3)	_____ Moss Trim Lines (B16)	
_____ Sediment Deposits (B2)	_____ Presence of Reduced Iron (C4)	_____ Dry-Season Water Table (C2)	
_____ Drift Deposits (B3)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Crayfish Burrows (C8)	
_____ Algal Mat or Crust (B4)	_____ Thin Muck Surface (C7)	_____ Saturation Visible on Aerial Imagery (C9)	
_____ Iron Deposits (B5)	_____ Other (Explain in Remarks)	_____ Geomorphic Position (D2)	
<u>X</u> Inundation Visible on Aerial Imagery (B7)		_____ Shallow Aquitard (D3)	
<u>X</u> Water-Stained Leaves (B9)		_____ FAC-Neutral Test (D5)	
		_____ Sphagnum moss (D8) <b>(LRR T, U)</b>	
<b>Field Observations:</b>			
Surface Water Present?	Yes <u>X</u> No _____ Depth (inches): <u>0 to 8</u>	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present?	Yes <u>X</u> No _____ Depth (inches): <u>0</u>		
Saturation Present? (includes capillary fringe)	Yes <u>X</u> No _____ Depth (inches): <u>surface</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 15-5W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum (Plot size: <u>5m</u> )</b>				
1. <u>Salix nigra</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
<b>Shrub Stratum (Plot size: <u>5m</u> )</b>				
1. <u>Cephalanthus occidentalis</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				
<b>Herb Stratum (Plot size: <u>5m</u> )</b>				
1. <u>Rhynchospora corniculata</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Persicaria hydropiperoides</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				
<b>Woody Vine Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 15-5W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	5Y 5/1	70	5 YR 5/8	30	C	M	clay loam	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-31-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 15U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.71582829 Long: -92.26865448 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Urban Land NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No hydrological indicators		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 15U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus pennsylvanica</u>	<u>75</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
<u>75</u> = Total Cover 50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum (Plot size: <u>5m</u> )</b>				
1. <u>Ligustrum sinense</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Herb Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>5m</u> )</b>				
1. <u>Lonicera japonica</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Smilax bona-nox</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>17</u> = Total Cover 50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
<b>Remarks: (If observed, list morphological adaptations below).</b>				

## SOIL

Sampling Point: DP 15U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	10YR 3/4	100					clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 16W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71527564 Long: -92.26829701 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: PFO1E - PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. No upland points were taken - the wetland ends abruptly at established roads on two sides within the survey area and continues outside the survey area on the other two sides.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<u>X</u> Surface Water (A1)	<u>X</u> Aquatic Fauna (B13)	<u>  </u> Surface Soil Cracks (B6)
<u>X</u> High Water Table (A2)	<u>  </u> Marl Deposits (B15) <b>(LRR U)</b>	<u>  </u> Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>  </u> Hydrogen Sulfide Odor (C1)	<u>X</u> Drainage Patterns (B10)
<u>  </u> Water Marks (B1)	<u>X</u> Oxidized Rhizospheres along Living Roots (C3)	<u>  </u> Moss Trim Lines (B16)
<u>  </u> Sediment Deposits (B2)	<u>  </u> Presence of Reduced Iron (C4)	<u>X</u> Dry-Season Water Table (C2)
<u>X</u> Drift Deposits (B3)	<u>  </u> Recent Iron Reduction in Tilled Soils (C6)	<u>X</u> Crayfish Burrows (C8)
<u>  </u> Algal Mat or Crust (B4)	<u>  </u> Thin Muck Surface (C7)	<u>  </u> Saturation Visible on Aerial Imagery (C9)
<u>  </u> Iron Deposits (B5)	<u>  </u> Other (Explain in Remarks)	<u>  </u> Geomorphic Position (D2)
<u>  </u> Inundation Visible on Aerial Imagery (B7)		<u>  </u> Shallow Aquitard (D3)
<u>  </u> Water-Stained Leaves (B9)		<u>  </u> FAC-Neutral Test (D5)
		<u>  </u> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u>		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 16W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>75</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>75</u> = Total Cover 50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Shrub Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Cephalanthus occidentalis</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Carex typhina</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Persicaria hydropiper</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Brunnichia ovata</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 16W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 12	5N	100					silt loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>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 ☐

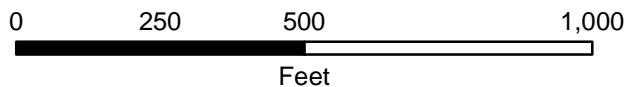
Remarks:





Source(s): Field collected GPS data

ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

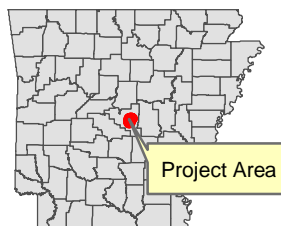
- Upland Data Point
- Wetland Data Point

#### Streams

- Ephemeral
- Intermittent
- Perennial

#### Wetlands

- Maintained
- Emergent
- Forested
- Riverine
- Scrub-shrub
- Wetland Study Area
- Proposed ROW
- Existing ROW
- Culverts



#### Stream and Wetlands Report

Map 20 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas







Wetland 14 Data point 14-4W.



Wetland 14 Data point 14-5W. View is to the northeast.



Wetland 17 Data point 17W. View to the northwest.



Wetland 17 Data point 17-2W. View is to the west.



Wetland 17 Data point 17-3W. View is to the east.



Wetland 17 Data point 17-4W. View is to the northwest.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 17 Data point 17-4W. View is to the northeast.



Wetland 17 Data point 17U. View is to the north.



Wetland 17 Data point 17U. View is to the south.



Wetland 18 Data point 18W. View is to the northeast.



Wetland 18 Data point 18U.



Wetland 18 Data point 18-2U. View is to the east.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.





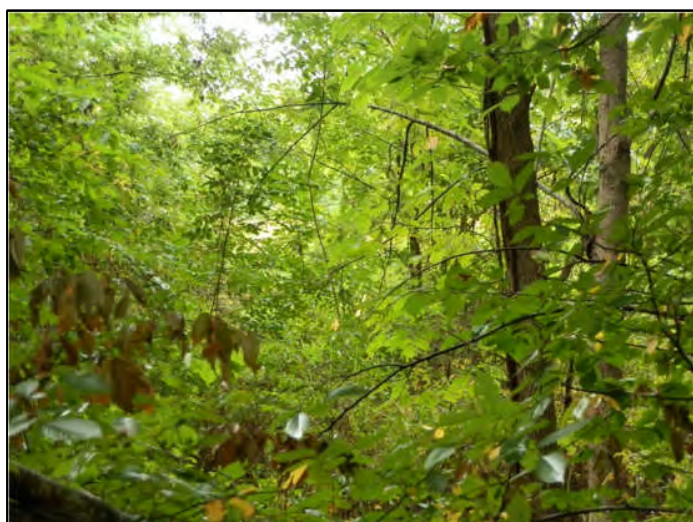




Wetland 18 Data point 18-2U. View is to the south.



Wetland 19 Data point 19W. View is to the east.



Wetland 19 Data point 19U.



Wetland 19 Data point 19-2W. View is to the east.



Wetland 19 Data point 19-3W. View is to the west.



Wetland 19 Data point 19-2U. View is to the northwest.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Wetland 19 Data point 19-2U. View is to the north.



Wetland 19 Data point 19-3U. View is to the north.



Wetland 20 Data point 20W. View is to the southeast.



Wetland 20 Data point 20U. View is to the east.



Stream 13 Looking upstream from middle.



Stream 13 Looking downstream from middle.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.







Stream 14



Stream 14 Typical reach.



Stream 14 Typical reach.



Wetland 21 Data point 21-2U. View to the southeast.

CA0602 I-530-Hwy. 67 (Widening  
& Reconstruction) (I-30 & I-40)  
(F) On-site photographs taken  
August 2015, December 2015, and  
January 2016.



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 14-4W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.7154443 Long: -92.2702284 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>&gt; 12</u> Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Hydrology updated 12-10-15		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 14-4W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Panicum hydropiperoides</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Juncus effusus</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Panicum lapathifolia</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Typha latifolia</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below). <b>Adjacent area is mowed maintained ROW and includes some disturbed/maintained PEM that is regularly mowed and rutted by mowers.</b>				



## SOIL

Sampling Point: DP 14-4W**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 1	10YR 4/4	100					loamy clay	
1 to 12	10YR 3/1	65	7.5 YR 4/6	35	C	M,PL	loamy clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR O</b> )
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR S</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR O</b> )	<input type="checkbox"/> Reduced Vertic (F18) ( <b>outside MLRA 150A,B</b> )
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>LRR P, S, T</b> )
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) ( <b>LRR P, T, U</b> )	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) ( <b>LRR P, T, U</b> )	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) ( <b>LRR U</b> )	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR P, T</b> )	<input type="checkbox"/> Marl (F10) ( <b>LRR U</b> )	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR O, P, T</b> )	
<input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 150A</b> )	<input type="checkbox"/> Umbric Surface (F13) ( <b>LRR P, T, U</b> )	
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR O, S</b> )	<input type="checkbox"/> Delta Ochric (F17) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) ( <b>MLRA 150A, 150B</b> )	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149A</b> )	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) ( <b>MLRA 149A, 153C, 153D</b> )	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR P, S, T, U</b> )		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils the same as W-14 - Data Point.



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-10-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 14-5W  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71537602 Long: -92.27024141 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: PSS1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<u>X</u> Surface Water (A1)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Marl Deposits (B15) <b>(LRR U)</b>	___ Sparsely Vegetated Concave Surface (B8)
<u>X</u> Saturation (A3)	<u>X</u> Hydrogen Sulfide Odor (C1)	<u>X</u> Drainage Patterns (B10)
___ Water Marks (B1)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Presence of Reduced Iron (C4)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Recent Iron Reduction in Tilled Soils (C6)	<u>X</u> Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Thin Muck Surface (C7)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)		___ Shallow Aquitard (D3)
___ Water-Stained Leaves (B9)		___ FAC-Neutral Test (D5)
		___ Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>&gt;12</u>	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No _____ Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 14-5W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Cephalanthus occidentalis</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Persicaria hydropiperoides</u>	<u>45</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 14-5W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 1	10YR 4/4	100					loamy clay	
1 to 12	10YR 3/1	65	7.5 YR 4/6	35	C	M,PL	loamy clay	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Soils the same as for DP 14 - 5W.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 17W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%):           
 Subregion (LRR or MLRA): LRRO Lat: 34.71481171 Long: -92.26895398 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes          No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No           
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>        </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>        </u>
Hydric Soil Present? Yes <u>X</u> No <u>        </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u>        </u>	
Remarks:  Precipitation below normal immediately prior to delineation, soils extremely dry. Upland data point not collected as only wetland/upland boundaries were with compacted fill material/field road. Soil sample not taken refer to soil remarks.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>        </u> Surface Soil Cracks (B6)
<u>        </u> Surface Water (A1)	<u>        </u> Aquatic Fauna (B13)	<u>        </u> Sparsely Vegetated Concave Surface (B8)
<u>        </u> High Water Table (A2)	<u>        </u> Marl Deposits (B15) <b>(LRR U)</b>	<u>        </u> Drainage Patterns (B10)
<u>X</u> Saturation (A3)	<u>        </u> Hydrogen Sulfide Odor (C1)	<u>        </u> Moss Trim Lines (B16)
<u>        </u> Water Marks (B1)	<u>        </u> Oxidized Rhizospheres along Living Roots (C3)	<u>        </u> Dry-Season Water Table (C2)
<u>        </u> Sediment Deposits (B2)	<u>        </u> Presence of Reduced Iron (C4)	<u>        </u> Crayfish Burrows (C8)
<u>        </u> Drift Deposits (B3)	<u>        </u> Recent Iron Reduction in Tilled Soils (C6)	<u>        </u> Saturation Visible on Aerial Imagery (C9)
<u>        </u> Algal Mat or Crust (B4)	<u>        </u> Thin Muck Surface (C7)	<u>        </u> Geomorphic Position (D2)
<u>        </u> Iron Deposits (B5)	<u>        </u> Other (Explain in Remarks)	<u>        </u> Shallow Aquitard (D3)
<u>        </u> Inundation Visible on Aerial Imagery (B7)		<u>        </u> FAC-Neutral Test (D5)
<u>        </u> Water-Stained Leaves (B9)		<u>        </u> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes <u>X</u> No <u>        </u>
Surface Water Present? Yes <u>        </u> No <u>X</u> Depth (inches): <u>        </u> Water Table Present? Yes <u>        </u> No <u>X</u> Depth (inches): <u>        </u> Saturation Present? Yes <u>X</u> No <u>        </u> Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:  Standing water present in wetland, but not at sample point/transition point.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 17W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Persicaria hydropiper</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Rhynchospora corniculata</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Carex typhina</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Berchemia scandens</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below).				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

X 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

## SOIL

Sampling Point: DP 17W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>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:

Based on hydric indicators found in adjacent wetlands, which are at the same approximate elevation and in the same mapped soil unit, it is acceptable to presume soils hydric at this location, per atypical, but “normal conditions” procedure described in Chapter 5 of the 2010 AGCP Regional Supplement to the 1987 Wetland Delineation Manual

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 17 - 2W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71413701 Long: -92.2692809 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry clay, 0 to 1 percent slopes, rarely flooded NWI classification: PEM1F

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Upland data point not collected as only wetland/upland boundary was with compacted fill material/field road. Soils not sampled refer to soil remarks.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>6</u> Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Standing water may be result of high water table or impoundment - source could not be determined.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 17 - 2W

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: _____ 20% of total cover: _____				
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5M</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Saururus cernuus</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
2. <u>Mimulus alatus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
3. <u>Carex typhina</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
4. <u>Rhynchospora corniculata</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
5. <u>Lemna minor</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	
_____ = Total Cover				
50% of total cover: <u>53.5</u> 20% of total cover: <u>21.4</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				



## SOIL

Sampling Point: DP 17 - 2W

[illegible]

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 12-11-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 17-3W  
 Investigator(s): R. Prager, C. Donisi Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71210846 Long: -92.26909841 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:  The month prior and the month of the delineation precipitation was above normal (4 to 6 inches). Temperature also above normal (3 to 9 degrees) during this period. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site. Photo updated 12-10-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators</u> (minimum of one is required; check all that apply)		<u>Secondary Indicators</u> (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 17-3W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Celtis laevigata</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.7</u> (A/B)
2. <u>Quercus phellos</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
3. <u>Ulmus pumila</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Quercus pagoda</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>62</u> = Total Cover 50% of total cover: <u>31</u> 20% of total cover: <u>12.4</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Shrub Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Crataegus crus-galli</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Amorpha nitens</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
2. <u>Carex tribuloides</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Carya sp. (seedlings- 2 inches tall)</u>	<u>2</u>	<u>N</u>	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>14</u> = Total Cover 50% of total cover: <u>7</u> 20% of total cover: <u>2.8</u>				
Woody Vine Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Berchemia scandens</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Smilax bona-nox</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u>Campsis radicans</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 17-3W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 1							Organic	
1 to 8	2.5 Y 3/2	95	7.5YR 5/8	5	C	M	loamy clay	prominent redox features

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530 - Hwy67 City/County: Little Rock, Pulaski County Sampling Date: 7-7-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 17-4W  
 Investigator(s): Bill Bailey/ Henry Langston Section, Township, Range: S 22,23; T 1N; R 12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.710094 Long: -92.269121 Datum: NAD83  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

 Sampling Point: DP 17-4W

Tree Stratum (Plot size: <u>20x20</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Ulmus crassifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Quercus phellos</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Ulmus americana</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>65</u> = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				
<b>Sapling/Shrub Stratum (Plot size: _____ )</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>_____</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum (Plot size: <u>20x20</u> )</b>				
1. <u>Ptilimnium capillaceum</u>	<u>15</u>	<u>Y</u>	<u>OBL</u>	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
<b>Woody Vine Stratum (Plot size: <u>20x20</u> )</b>				
1. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
2. <u>Berchemia scandens</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Toxicodendron radicans</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 17-4W

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-12	7.5YR 3/3	90	7.5YR 4/6	2-20	D	M	silty clay Common

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>                 |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>                       |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Gleyed Matrix (F2)  |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input checked="" type="checkbox"/> Depleted Matrix (F3)                                   |
| <input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>     | <input type="checkbox"/> Redox Dark Surface (F6)   |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b> | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>             | <input type="checkbox"/> Marl (F10) <b>(LRR U)</b>   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b> | <input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>   | <input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>                     |
| <input type="checkbox"/> Sandy Redox (S5)                             | <input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>                |
| <input type="checkbox"/> Stripped Matrix (S6)                         | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> |
| <input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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 X No \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530 - Hwy67 City/County: Little Rock, Pulaski County Sampling Date: 7-7-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 17-5W  
 Investigator(s): Bill Bailey / Henry Langston Section, Township, Range: S 22,23; T 1N; R 12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.710268 Long: -92.267936 Datum: NAD83  
 Soil Map Unit Name: PerryClay, 0 to 1 percent slopes, rarely flooded NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks:			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)		<b>Secondary Indicators (minimum of two required)</b>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> 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: DP 17-5W

Tree Stratum (Plot size: <u>20x20</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus phellos</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Ulmus crassifolia</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>Carya ovata</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>65</u> = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>_____</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20x20</u> )				
1. <u>Berchemia scandens</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
2. <u>Ptilimnium capillaceum</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				
<b>Woody Vine Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>_____</u> = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 17-5W

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-12	7.5YR 3/2	90	7.5YR 5/6	2-20	D	M	Common

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>                 |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>                       |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Gleyed Matrix (F2)  |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Depleted Matrix (F3)  |
| <input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>     | <input checked="" type="checkbox"/> Redox Dark Surface (F6)                                |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b> | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>             | <input type="checkbox"/> Marl (F10) <b>(LRR U)</b>   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b> | <input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>   | <input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>                     |
| <input type="checkbox"/> Sandy Redox (S5)                             | <input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>                |
| <input type="checkbox"/> Stripped Matrix (S6)                         | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> |
| <input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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 X No \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-31-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 17U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Terrace at toe of slope Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71179549 Long: -92.26949545 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry clay, 0 to 1 percent slopes, rarely flooded NWI classification: NA - upland point  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No signs of hydrology.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 17U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Ulmus alata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. <u>Fraxinus americana</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Celtis occidentalis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>none</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Woody Vine Stratum</b> (Plot size: <u>5m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1.0</u>				
Remarks: (If observed, list morphological adaptations below).				



## SOIL

Sampling Point: DP 17U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10 YR 4/3	95	10 YR 5/8	5	C	M	clay loam	
4 to 12	10 YR 4/3	75	10 YR 5/8	25	C	M	clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> <b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>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 <sup>X</sup> \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530 - Hwy 67 City/County: Little Rock, Pulaski County Sampling Date: 7-7-16  
Applicant/Owner: AHTD State: AR Sampling Point: DP 17-2U  
Investigator(s): Bill Bailey / Henry Langston Section, Township, Range: S 22,23; T 1N; R 12W  
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1 to 2  
Subregion (LRR or MLRA): LRRO Lat: 34.709586 Long: -92.269257 Datum: NAD83  
Soil Map Unit Name: PerryClay, 0 to 1 percent slopes, rarely flooded NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks:	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____		
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

 Sampling Point: DP 17-2U

Tree Stratum (Plot size: <u>20x20</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Ulmus crassifolia</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.6 (60%)</u> (A/B)
2. <u>Carya ovata</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Celtis laevigata</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>70</u> = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>20x20</u> )				
1. <u>Ptilimnium capillaceum</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>20x20</u> )				
1. <u>Lonicera japonica</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 17-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 4/2	100					silty clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>                 |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>                       |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Gleyed Matrix (F2)  |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Depleted Matrix (F3)  |
| <input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>     | <input type="checkbox"/> Redox Dark Surface (F6)   |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b> | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>             | <input type="checkbox"/> Marl (F10) <b>(LRR U)</b>   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b> | <input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>   | <input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>                     |
| <input type="checkbox"/> Sandy Redox (S5)                             | <input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>                |
| <input type="checkbox"/> Stripped Matrix (S6)                         | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> |
| <input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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 X

Remarks:



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530 - Hwy 67 City/County: Little Rock, Pulaski County Sampling Date: 7-7-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 17-3U  
 Investigator(s): Bill Bailey / Henry Langston Section, Township, Range: S 22,23; T 1N; R 12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.710153 Long: -92.267473 Datum: NAD83  
 Soil Map Unit Name: PerryClay, 0 to 1 percent slopes, rarely flooded NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks:	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<b>Secondary Indicators (minimum of two required)</b> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

 Sampling Point: DP 17-3U

Tree Stratum (Plot size: <u>20x20</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carya ovata</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.2 (20%)</u> (A/B)
2. <u>Quercus stellata</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	
3. <u>Ulmus alata</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____      20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____      20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>20x20</u> )				
1. <u>Toxicodendron radicans</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Parthenocissus quinquefolia</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
Remarks: (If observed, list morphological adaptations below).				

**SOIL**

Sampling Point: DP 17-3U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	7.5YR 5/4	100					silty clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>                 |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>                       |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Gleyed Matrix (F2)  |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Depleted Matrix (F3)  |
| <input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>     | <input type="checkbox"/> Redox Dark Surface (F6)   |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b> | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>             | <input type="checkbox"/> Marl (F10) <b>(LRR U)</b>   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)            | <input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b> | <input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>   | <input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                     | <input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>                     |
| <input type="checkbox"/> Sandy Redox (S5)                             | <input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>                |
| <input type="checkbox"/> Stripped Matrix (S6)                         | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> |
| <input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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 X

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 18W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71126789 Long: -92.27012364 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Photo updated 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 18W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix nigra</u>	<u>35</u>	<u>Y</u>	<u>OBL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. <u>Fraxinus pennsylvanica</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across All Strata: _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>70</u> = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>none</u> )</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____  _____ = Total Cover 50% of total cover: _____    20% of total cover: _____				<b>Hydrophytic Vegetation Indicators:</b> <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum (Plot size: <u>10m</u> )</b> 1. <u>Cephalanthus occidentalis</u> <u>15</u> <u>Y</u> <u>OBL</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____  <u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
<b>Herb Stratum (Plot size: <u>5m</u> )</b> 1. <u>Carex crinita</u> <u>100</u> <u>Y</u> <u>FACW</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____  <u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
<b>Woody Vine Stratum (Plot size: <u>none</u> )</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____  _____ = Total Cover 50% of total cover: _____    20% of total cover: _____				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
Remarks: (If observed, list morphological adaptations below). <b>Large Carex crinita patch in opening created by large willow deadfall.</b>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____

## SOIL

Sampling Point: DP 18W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 12	10 YR 3/1	85	7.5 YR 4/6	15	C	M,PL	clay loam	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 18U  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5  
 Subregion (LRR or MLRA): LRRO Lat: 34.71122564 Long: -92.27004835 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry clay, 0 to 1 percent slopes, rarely flooded NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No positive indicators of wetland hydrology were observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 18U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Cercis canadensis</u>	<u>20</u>	<u>Y</u>	<u>UPL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>9</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>77.8</u> (A/B)
2. <u>Ulmus rubra</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>80</u> = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Shrub Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
<b>Herb Stratum (Plot size: <u>5m</u> )</b>				
1. <u>Rubus argutus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Paspalum notatum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<b>Woody Vine Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Berchemia scandens</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Campsis radicans</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Brunnichia ovata</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 18U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 14	10 YR 3/3	100					loam	no redox on live roots

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

☐ 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)

<sup>3</sup>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:

No hydric soil indicators were observed.



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-31-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 18-2U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 1  
 Subregion (LRR or MLRA): LRRO Lat: 34.71087372 Long: -92.27012577 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry clay, 0 to 1 percent slopes, rarely flooded NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 18-2U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ulmus alata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>none</u> )</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Shrub Stratum (Plot size: <u>none</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Herb Stratum (Plot size: <u>none</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>5m</u> )</b>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Lonicera japonica</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Smilax rotundifolia</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>75</u> = Total Cover 50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 18-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 10	10 YR 3/2	98	10 YR 5/8	2			loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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 <sup>X</sup> \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 19W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71079988 Long: -92.27026316 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>6</u>		
Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Strong hydrogen sulfide odor when shovel removed from soil. Receives water from culvert and conveys water downstream through culvert on opposite side when water levels are high.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 19W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>45</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Salix nigra</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Ulmus americana</u>	<u>15</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>25</u> = Total Cover 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				
<b>Shrub Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Cephalanthus occidentalis</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>25</u> = Total Cover 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				
<b>Herb Stratum</b> (Plot size: <u>10m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Hibiscus moscheutos</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
2. <u>Carex crinita</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>17</u> = Total Cover 50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Ampelopsis arborea</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
Remarks: (If observed, list morphological adaptations below).				



## SOIL

Sampling Point: DP 19W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 5	10 YR 4/3	75	7.5 YR 4/6	25	C	M	silty clay	
5 to 12	4N gley						clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**
- ☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 19-2W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.70972102 Long: -92.27032853 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry clay, 0 to 1 percent slopes, rarely flooded NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Photo updated 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Wetland is in low point with no outflow - receives inflow from seep that feeds the portion of the wetlands within the maintained transportation ROW and precipitation/runoff.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 19-2W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>65</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>65</u> = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)    _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>10m</u> )				
1. <u>Fraxinus pennsylvanica</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				
Shrub Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X</u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Juncus effusus</u>	<u>65</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Hibiscus moscheutos</u>	<u>2</u>	<u>N</u>	<u>OBL</u>	
3. <u>Euthamia leptocephala</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>97</u> = Total Cover 50% of total cover: <u>48.5</u> 20% of total cover: <u>19.4</u>				
Woody Vine Stratum (Plot size: <u>10m</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. <u>Berchemia scandens</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>2</u> = Total Cover 50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 19-2W

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

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0 to 5	10 YR 4/1	80	10 YR 4/4	20	C	PL	loam	
5	restrictive layer						fill material	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR O</b> )
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR S, T, U</b> )	<input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR S</b> )
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR O</b> )	<input type="checkbox"/> Reduced Vertic (F18) ( <b>outside MLRA 150A,B</b> )
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>LRR P, S, T</b> )
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) ( <b>LRR P, T, U</b> )	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> ( <b>MLRA 153B</b> )
<input type="checkbox"/> 5 cm Mucky Mineral (A7) ( <b>LRR P, T, U</b> )	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) ( <b>LRR U</b> )	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR P, T</b> )	<input type="checkbox"/> Marl (F10) ( <b>LRR U</b> )	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR O, P, T</b> )	
<input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 150A</b> )	<input type="checkbox"/> Umbric Surface (F13) ( <b>LRR P, T, U</b> )	
<input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR O, S</b> )	<input type="checkbox"/> Delta Ochric (F17) ( <b>MLRA 151</b> )	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) ( <b>MLRA 150A, 150B</b> )	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149A</b> )	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) ( <b>MLRA 149A, 153C, 153D</b> )	
<input type="checkbox"/> Dark Surface (S7) ( <b>LRR P, S, T, U</b> )		

**Restrictive Layer (if observed):**Type: fill material/hardpanDepth (inches): 5Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 19U  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R12W  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5  
 Subregion (LRR or MLRA): LRRO Lat: 34.71070305 Long: -92.2701772 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No positive indicators of wetland hydrology were observed.		



**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 19U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.0</u> (A/B)
2. <u>Ulmus alata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>45</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				
<b>Sapling Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Ulmus alata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
<u>20</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
<b>Shrub Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Rosa multiflora</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>25</u> = Total Cover				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				
<b>Herb Stratum (Plot size: <u>5m</u> )</b>				
1. <u>Solidago altissima</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Carex crinita</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
<u>17</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
<b>Woody Vine Stratum (Plot size: <u>10m</u> )</b>				
1. <u>Toxicodendron radicans</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>2</u> = Total Cover				
50% of total cover: <u>1</u> 20% of total cover: <u>0.4</u>				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: DP 19U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	2.5 YR 5/3	100					Loam	
4	restrictive layer						fill material	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils<sup>3</sup>:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (if observed):

Type: hardpan/fill material

Depth (inches): 4

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators were observed.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-18-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 19-2U  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S14, T1N, R11W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.70974366 Long: -92.27039725 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry Clay, 0 to 1 percent slopes, rarely flooded NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Photo updated 12-08-15.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____	
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No positive indicators of wetland hydrology were observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 19-2U

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Prunus serotina</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u>Ulmus alata</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Pinus taeda</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A)      _____ (B)  Prevalence Index = B/A = _____
<b>Sapling Stratum (Plot size: <u>10M</u> )</b>				
1. <u>Prunus serotina</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Ulmus alata</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Pinus taeda</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u>Juniperus virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
<b>Shrub Stratum (Plot size: <u>none</u> )</b>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Herb Stratum (Plot size: <u>5m</u> )</b>				
1. <u>Rubus argutus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____      20% of total cover: _____				
<b>Woody Vine Stratum (Plot size: <u>10m</u> )</b>				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Berchemia scandens</u>	<u>2</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Brunnichia ovata</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>7</u> = Total Cover 50% of total cover: <u>3.5</u> 20% of total cover: <u>1.4</u>				
Remarks: (If observed, list morphological adaptations below).  Percent FAC or wetter of dominants was equal to 50% not greater than 50%. No indicators of hydrophytic vegetation were observed.				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>

## SOIL

Sampling Point: DP 19-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	2.5 Y 5/3	100					loam	
4	restrictive layer						fill material	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>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)**

☐ Polyvalue 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 (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

☐ 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)

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

**Restrictive Layer (if observed):**Type: hardpan/fill materialDepth (inches): 4Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

No hydric soil indicators were observed.



# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-20-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 20W  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S15, T1N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%):           
 Subregion (LRR or MLRA): LRRO Lat: 34.71223697 Long: -92.27194433 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry clay, 0 to 1 percent slopes NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes          No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No           
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>        </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>        </u>
Hydric Soil Present? Yes <u>X</u> No <u>        </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u>        </u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Wetland originates at an area of compacted fill material/field road on east side and extends to the toe of fill material for causeway.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>
Primary Indicators (minimum of one is required; check all that apply)		
<u>        </u> Surface Water (A1)	<u>        </u> Aquatic Fauna (B13)	<u>        </u> Surface Soil Cracks (B6)
<u>        </u> High Water Table (A2)	<u>        </u> Marl Deposits (B15) <b>(LRR U)</b>	<u>X</u> Sparsely Vegetated Concave Surface (B8)
<u>        </u> Saturation (A3)	<u>        </u> Hydrogen Sulfide Odor (C1)	<u>        </u> Drainage Patterns (B10)
<u>        </u> Water Marks (B1)	<u>X</u> Oxidized Rhizospheres along Living Roots (C3)	<u>        </u> Moss Trim Lines (B16)
<u>X</u> Sediment Deposits (B2)	<u>        </u> Presence of Reduced Iron (C4)	<u>X</u> Dry-Season Water Table (C2)
<u>        </u> Drift Deposits (B3)	<u>        </u> Recent Iron Reduction in Tilled Soils (C6)	<u>X</u> Crayfish Burrows (C8)
<u>        </u> Algal Mat or Crust (B4)	<u>        </u> Thin Muck Surface (C7)	<u>        </u> Saturation Visible on Aerial Imagery (C9)
<u>        </u> Iron Deposits (B5)	<u>        </u> Other (Explain in Remarks)	<u>        </u> Geomorphic Position (D2)
<u>        </u> Inundation Visible on Aerial Imagery (B7)		<u>        </u> Shallow Aquitard (D3)
<u>X</u> Water-Stained Leaves (B9)		<u>        </u> FAC-Neutral Test (D5)
		<u>        </u> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes <u>        </u> No <u>X</u> Depth (inches): <u>        </u>	Wetland Hydrology Present? Yes <u>X</u> No <u>        </u>	
Water Table Present? Yes <u>        </u> No <u>X</u> Depth (inches): <u>        </u>		
Saturation Present? Yes <u>        </u> No <u>X</u> Depth (inches): <u>        </u> (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Recent prolonged dry conditions resulted in no saturation other than < 1 inch superficial saturation from previous day's rain.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 20W

Tree Stratum (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>85</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>85</u> = Total Cover 50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
Sapling Stratum (Plot size: <u>10m</u> )				
1. <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>25</u> = Total Cover 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				<b>Hydrophytic Vegetation Indicators:</b> <u>  </u> 1 - Rapid Test for Hydrophytic Vegetation <u>  X  </u> 2 - Dominance Test is >50% <u>  </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>  </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Shrub Stratum (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Herb Stratum (Plot size: <u>5m</u> )				<b>Definitions of Five Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  <b>Sapling</b> – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  <b>Shrub</b> – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  <b>Herb</b> – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  <b>Woody vine</b> – All woody vines, regardless of height.
1. <u>Carex tribuloides</u>	<u>65</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>65</u> = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				
Woody Vine Stratum (Plot size: <u>none</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____    20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: DP 20W

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0 to 12	10 YR 2/1	80	7.5 YR 4/6	20	C	M,PL	prominent redox

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b>
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b>	<input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b>
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b>	<input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b>
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b>
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b>	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<b>(MLRA 153B)</b>
<input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b>	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b>	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b>	<input type="checkbox"/> Marl (F10) <b>(LRR U)</b>	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b>	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b>	
<input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b>	<input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b>	
<input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b>	<input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b>	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b>	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b>	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b>	
<input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b>		

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No \_\_\_\_\_

Remarks:

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 8-19-15  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 20U  
 Investigator(s): R. Reaves, D. Aycock Section, Township, Range: S15, T1N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.713769 Long: -92.270700 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry clay, 0 to 1 percent slopes, rarely floded NWI classification: N/A - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Precipitation below normal immediately prior to delineation, soils extremely dry. Area has been historically disturbed from interstate construction, but these conditions are now normal for the site.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b>		
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u>	Depth (inches): _____ (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators of wetland hydrology were observed.		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 20U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Paspalum notatum</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Lotus corniculatus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>10m</u> )				
1. <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Remarks: (If observed, list morphological adaptations below).				
<b>Hydrophytes &lt; 50% of dominants.</b>				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
  
 Total Number of Dominant Species Across All Strata: 3 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 (A/B)

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

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
 \_\_\_ 2 - Dominance Test is >50%  
 \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Five Vegetation Strata:**  
  
**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  
  
**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.  
  
**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  
  
**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.  
  
**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X



**SOIL**

Sampling Point: DP 20U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 4	10 YR 4/3	95	10 YR 4/4	5	C	M	clay loam	
4 to 12	10 YR 4/4	100					clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

<sup>3</sup>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 X

Remarks:

No hydric soil indicators were observed.

# WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CA0602 I-530-Hwy 67 City/County: Pulaski Sampling Date: 1-31-16  
 Applicant/Owner: AHTD State: AR Sampling Point: DP 20-2U  
 Investigator(s): R.Prager, C.Donisi Section, Township, Range: S15, T1N, R12W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Fill-in field Slope (%): 0 to 2  
 Subregion (LRR or MLRA): LRRO Lat: 34.71161392 Long: -92.27197403 Datum: NAD83\_UTM Z15N  
 Soil Map Unit Name: Perry clay, 0 to 1 percent slopes NWI classification: NA - upland point

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No X (If no, explain in Remarks.)  
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: The month prior to the delineation precipitation was above normal (4 to 6 inches). Temperature was also above normal (3 to 9 degrees). The month of the delineation climatic and hydrological conditions were average for this time of year. Immediately prior to site visit 4.5 to 8 inches of snow fall occurred. Snow was melted by delineation date.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<u>Surface Water (A1)</u>	<u>Aquatic Fauna (B13)</u>	<u>Sparsely Vegetated Concave Surface (B8)</u>
<u>High Water Table (A2)</u>	<u>Marl Deposits (B15) (LRR U)</u>	<u>Drainage Patterns (B10)</u>
<u>Saturation (A3)</u>	<u>Hydrogen Sulfide Odor (C1)</u>	<u>Moss Trim Lines (B16)</u>
<u>Water Marks (B1)</u>	<u>Oxidized Rhizospheres along Living Roots (C3)</u>	<u>Dry-Season Water Table (C2)</u>
<u>Sediment Deposits (B2)</u>	<u>Presence of Reduced Iron (C4)</u>	<u>Crayfish Burrows (C8)</u>
<u>Drift Deposits (B3)</u>	<u>Recent Iron Reduction in Tilled Soils (C6)</u>	<u>Saturation Visible on Aerial Imagery (C9)</u>
<u>Algal Mat or Crust (B4)</u>	<u>Thin Muck Surface (C7)</u>	<u>Geomorphic Position (D2)</u>
<u>Iron Deposits (B5)</u>	<u>Other (Explain in Remarks)</u>	<u>Shallow Aquitard (D3)</u>
<u>Inundation Visible on Aerial Imagery (B7)</u>		<u>FAC-Neutral Test (D5)</u>
<u>Water-Stained Leaves (B9)</u>		<u>Sphagnum moss (D8) (LRR T, U)</u>
<b>Field Observations:</b>		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**VEGETATION (Five Strata) – Use scientific names of plants.**

 Sampling Point: DP 20-2U

Tree Stratum (Plot size: <u>none</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Shrub Stratum</b> (Plot size: <u>none</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5m</u> )				
1. <u>Paspalum notatum</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Dichondra carolinensis</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Hydrocyle sibthorpioides</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>none</u> )				
1. <u>Rubus argutus</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
Remarks: (If observed, list morphological adaptations below).				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

☐ 1 - Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0<sup>1</sup>

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Five Vegetation Strata:**

**Tree** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

**Sapling** – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

**Shrub** – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

**Herb** – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

**Woody vine** – All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes X No \_\_\_\_\_

**SOIL**

Sampling Point: DP 20-2U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 to 3	10 YR 3/3	100					clay loam	
3 to 10	10 YR 4/3	100					clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>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)**

- ☐ Polyvalue 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 (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 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)

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

**Restrictive Layer (if observed):**

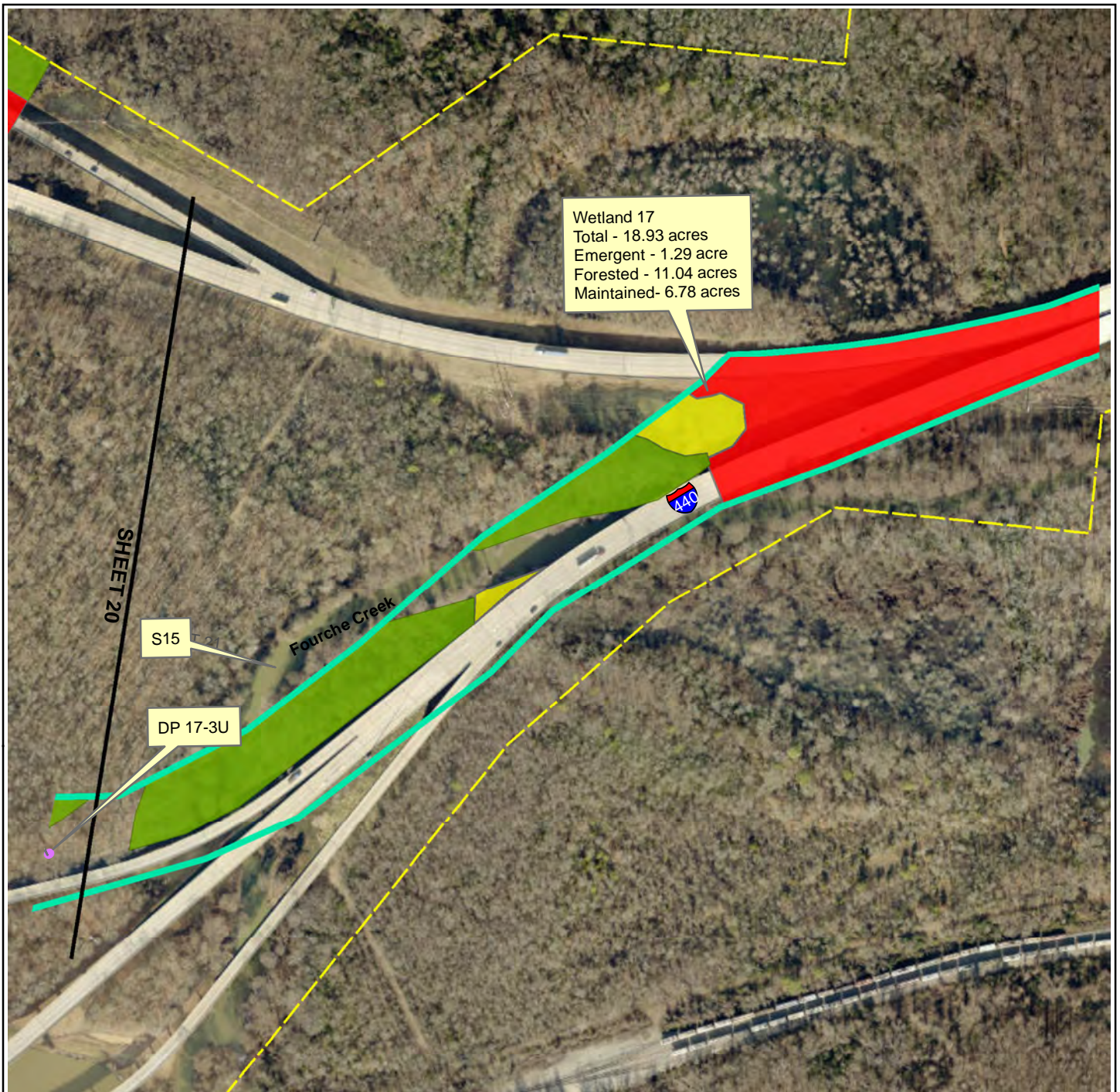
Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

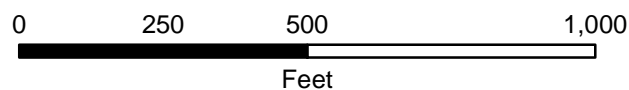
Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:



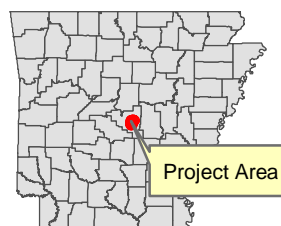


Source(s): Field collected GPS data  
ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



#### LEGEND

- Upland Data Point
- Wetland Data Point
- Streams**
  - Ephemeral
  - Intermittent
  - Perennial
- Wetlands**
  - Maintained
  - Emergent
  - Forested
  - Riverine
  - Scrub-shrub
  - Wetland Study Area
  - Proposed ROW
  - Existing ROW
  - Culverts



#### Stream and Wetlands Report

Map 21 of 21

I-30 from I-530 to Hwy. 67

Pulaski County, Arkansas

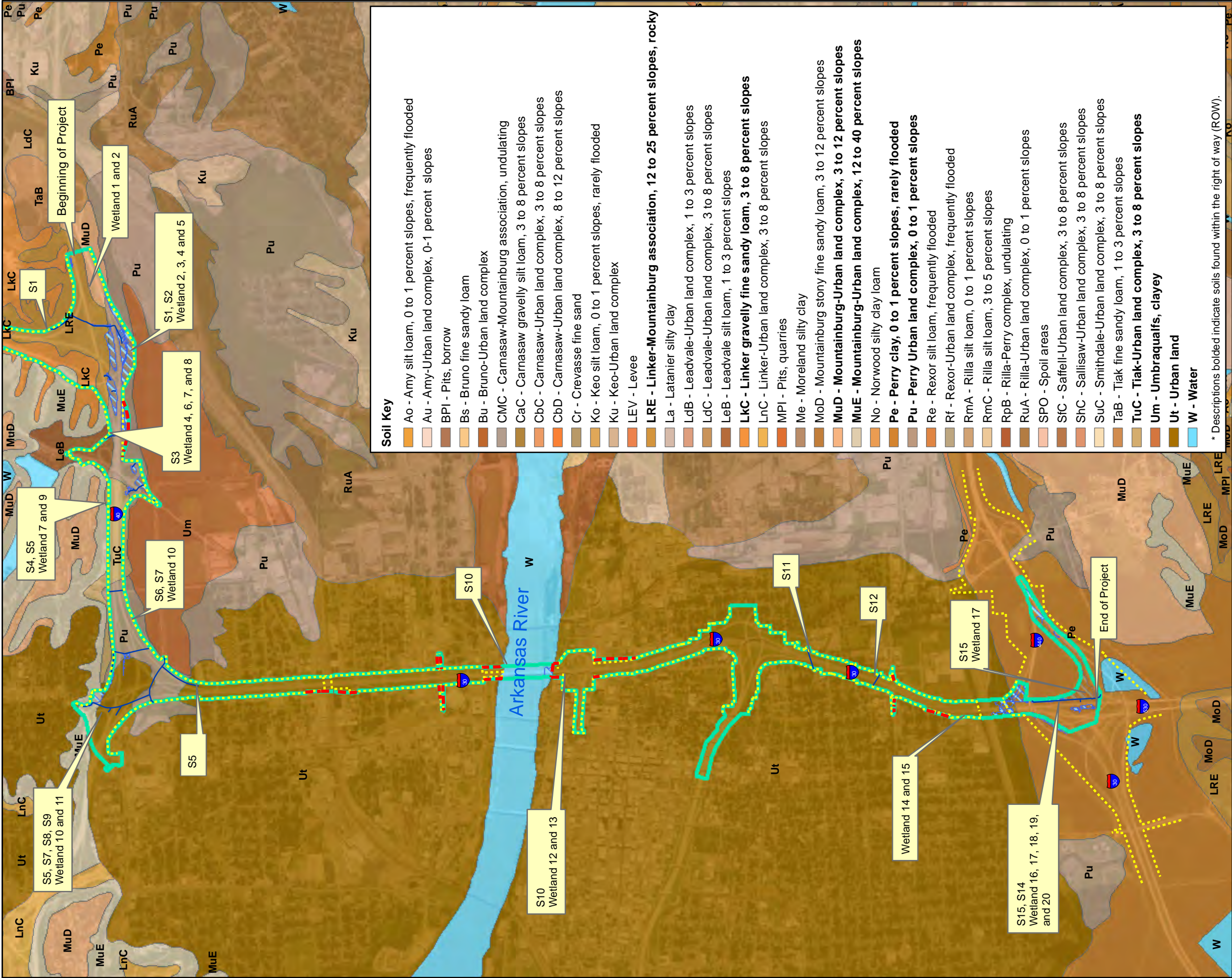




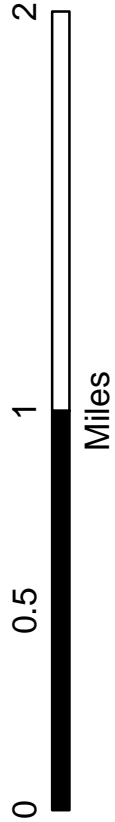
## Appendix A

### Soils Maps



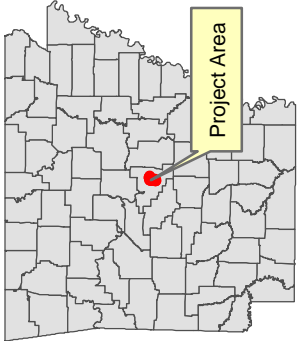


Source(s): USDA Soil Survey  
ESRI Base Map Credits - ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.



**LEGEND**

- Proposed ROW
- Existing ROW
- Streams
- Wetland Study Area
- Wetlands



**Soils**

I-30 from I-530 to Hwy. 67  
Stream and Wetlands Report  
Pulaski County, Arkansas